

EXHIBIT K



As Certified by The Financial Oversight and Management Board for Puerto Rico
June 5, 2019

- The Financial Oversight and Management Board for Puerto Rico (the “FOMB,” or “Oversight Board”) has formulated this 2019 HTA Fiscal Plan based on, among other things, information obtained from the Puerto Rico Highway Transportation Authority (“HTA”) and the Puerto Rico Fiscal Agency and Financial Advisory Authority (“AAFAF”) (together, the “Government”)
- This document does not constitute an audit conducted in accordance with generally accepted auditing standards, an examination of internal controls or other attestation or review services in accordance with standards established by the American Institute of Certified Public Accountants or any other organization. Accordingly, the Oversight Board cannot express an opinion or any other form of assurance on the financial statements or any financial or other information or the internal controls of the Government and the information contained herein.
- This HTA Fiscal Plan is based on what the Oversight Board believes is the best information currently available to it. To the extent the Oversight Board becomes aware of additional information after it certifies this HTA Fiscal Plan that the Oversight Board determines warrants a revision of this HTA Fiscal Plan, the Oversight Board will so revise it.
- For the avoidance of doubt, the Oversight Board does not consider and has not considered anything in the HTA Fiscal Plan as a “recommendation” pursuant to Section 205(a). Nevertheless, to the extent that anything in the Fiscal Plan is ever deemed a “recommendation” pursuant to Section 205(a), the Oversight Board hereby adopts it as appropriate in the HTA Fiscal Plan pursuant to Section 201(b)(1)(K).
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I. EXECUTIVE SUMMARY

- **Puerto Rico's economy requires an efficient transportation system that safely and sustainably provides high-quality service for its residents.** A safe and efficient transportation system, with feasible options for public transit, is the right of every Puerto Rican, and an imperative for economic development. The Puerto Rico Highways and Transportation Authority (HTA) has four objectives aligned with this goal: (a) transit security and safety projects, (b) preservation and improvement of existing transportation infrastructure, (c) integrated highway systems, and (d) traffic reduction. This mandate was made dramatically more difficult in the face of Hurricane Maria, which severely damaged the Island's highway and public transit networks, with current estimates of the damages at \$596M, and 21% of Interstates (IS) and 68% of non-IS roads considered in poor condition.¹ The Revised Fiscal Plan for HTA provides a roadmap for transforming not only the Authority, but also infrastructure across Puerto Rico to catalyze economic growth.
- **HTA must transform drastically to achieve its goals.** Recent performance of this system has lagged targets. The Puerto Rico transportation system has among the highest fatality rate, poorest pavement conditions, and worst costs of congestion nationwide. Puerto Rico is ranked 51st out of 52 jurisdictions for quality of roads (percentage of roads in poor conditions) and is ranked 45th out of 52 for congestion of roads². HTA has amassed over \$6B of debt, and has been unable to deliver on its Capital Improvement Program (CIP) in recent years, despite underutilization of its workforce. Disruptions to the construction market after Hurricane Maria constitute a major risk that impacts HTA's ability to deliver on a necessary capital improvement program. The CIP needs to be regularly evaluated to ensure successful delivery. HTA faces the task of improving performance as the responsible entity for developing, operating and maintaining Puerto Rico's toll roads, highway network, and mass transportation facilities.
- **The Revised Fiscal Plan provides a roadmap to ensure a successful transformation of HTA.** The Revised Fiscal Plan transforms HTA from an in-house infrastructure developer to an independently governed contract manager to deliver on a \$3.1B³ capital program while capturing \$462M in revenue and expense opportunities. The Plan represents a step change in performance from the recent past. The governance and operating model must be dramatically transformed to orient around outcomes and efficient delivery. At its peak, the capital program is expected to increase by >3x as compared to average FY14-18 levels, while delivering on an Memorandum of Understanding (MOU) with the Federal Highway Administration (FHWA) to improve delivery. Successful implementation of the Revised Fiscal Plan will ensure HTA is fiscally sustainable, maintains its assets in a state of good repair, reduces congestion in the system, ensures preparedness for future disasters, and support economic development.

¹ Federal Highway Administration

² Federal Bureau of Transportation Statistics

³ Includes \$384M in emergency repairs outsourced to Eastern Federal Lands

- **Successfully implementing a comprehensive transportation sector transformation will require HTA to deliver on the following activities, as detailed in the Revised Fiscal Plan:**
 - **Improving governance and performance management:** The Revised Fiscal Plan outlines a strategy to incentivize and monitor performance across the organization through organizational KPIs to ensure that the leaner organization can deliver its capital improvement program. The Revised Fiscal Plan also calls for the recruitment and engagement a Board of diversified professionals to define and implement HTA's long term strategy.
 - **Pursuing greater revenue opportunities:** The Revised Fiscal Plan details strategies to enhance operating revenues including toll increases to ensure that purchasing power of revenues keeps up with inflation. The Revised Fiscal Plan further commits to pursuing discretionary federal funding and ancillary revenue opportunities including in real estate and advertising.
 - **Achieve greater operational excellence:** To optimize operating expenses, the Revised Fiscal Plan requires that certain contracts are re-bid using Title III processes to be in line with competitive benchmarks. To right-size the organization and become a best-in-class lean department of transportation, HTA completed early retirement programs (Law 211), and further workforce transition efforts to reduce personnel costs by 15%. The reduction in workforce needs to be balanced with qualified and trained staff, appropriate resources (e.g., IT capabilities) and necessary authority to deliver the program. HTA will also continue to evaluate concession opportunities that create value, and capture pension savings related to the reform of the Employees Retirement System.
 - **Delivering on an ambitious capital program:** The Revised Fiscal Plan optimizes capital expenditures through improved project prioritization, enhanced delivery, and soft cost reductions. Delivering the full scope of the proposed capital improvement plan would require a step-change in performance, increasing disbursements from \$212M on average from FY13-FY18 to \$526M of average disbursements from FY19-FY24. The program must further manage regular and emergency repair construction programs to improve road conditions, safety, and congestion across critical economic corridors
 - **Reducing traffic to drive economic growth:** HTA must complete projects already in progress to reduce traffic and further advance innovative projects in critical intersections to further promote economic growth and revenue benefits.

A significant gap remains between HTA's performance to date and these goals, particularly in enhancing the operating model, growing revenue streams and delivering on the capital program. Bringing the transformation back on track will require a renewed commitment from HTA towards: i) fundamentally changing its operating model; ii) securing sustainable revenue streams; and iii) accelerating capital project delivery

- **The proposed organizational transformation must be pursued to completion, including making challenging staffing and operational choices.** Rightsizing efforts must be completed to reduce personnel costs by 15% and accompanied by efforts to retain, attract and develop talent within the organization. Although ~80% of rightsizing savings are on track to be delivered, only 50% of payroll savings will be achieved. HTA should further consider ways to inject fresh talent into the organization, and build organizational capabilities that will allow it to effectively manage its outsourced toll operations and capital program.
- **Enhancements in governance and performance management must be supplemented with greater internal accountability.** HTA is behind schedule for implementation of (1) development of organizational KPIs, (2) recruitment of a Board of diversified professionals to define and implement HTA's long term strategy. In addition to accelerating its compliance across those two initiatives, HTA should ensure that all measures and supporting initiatives have clear HTA ownership and accountability.
- **HTA must establish and maintain sustainable revenue sources.** Only one-off revenue opportunities have been pursued, with lack of increases in toll fares, while fragility of the toll collection system puts future revenues at risk. Toll fare increases and toll system optimization must be addressed. By refusing to implement toll rate increases HTA puts \$91M of incremental revenue from FY19-FY24 at risk. Events in FY19 further highlighted the fragility of HTA's existing toll system, posing a threat to future fine and fare collections. The Revised Fiscal Plan requires toll optimization and toll rate increases. These two measures alone are designed to generate \$166M from FY19-FY24, representing ~45% of State Funds Earmarked For Capex over the same period¹
- **Efficient and effective delivery of the capital program as planned is paramount to supporting broader economic development. Achieving the capital program goals will require enhancing HTA's systems, capacity and capabilities.** Delivery of the capital program significant lags the previous Fiscal Plan targets, with 28% of budgeted funds across all programs for FY19 disbursed to date. HTA's 2016 MOU with the FHWA outlines implementation of performance management, information system and capability enhancements that have yet to be completed. Existing manual, paper-based contract management processes and the fragility of the toll operating system, highlight the risks to HTA's ability to effectively manage the capital program and fund its day-to-day operations. A complete revamp of key systems across project management and payment must be taken with immediate effect. HTA must further ensure robust outcome-based prioritization of its project portfolio to ensure efforts are focused towards improving road and bridge conditions, reducing congestion and improving safety. HTA must undertake a programmatic effort to increase internal and market project delivery capacity, and launch project-level dashboards to provide transparency on condition and performance.

¹ Excludes prior year obligated funds of \$164M

FY19 budget performance as of April show a \$148M surplus driven by lagging capital program disbursements and funding of the Abriendo Caminos program

Budget to Actuals report April 2019

	<u>FY 19</u> <u>Budget</u> <u>(\$M)</u>	<u>YTD</u> <u>Actuals</u> <u>(\$M)</u>	<u>YTD</u> <u>Budget</u> <u>(\$M)</u>	<u>Variance</u> <u>(\$M)</u>	<u>Variance</u> <u>(%)</u>
Revenues					
Operating revenues ¹	167	141	137	4	3%
CW Funding	179	163	149	14	9%
Federal funding	786	124	580	(456)	-79%
Abriendo Caminos	-	80	-	80	100%
Total Revenues	1,133	507	866	(359)	-41%
Capital Expenditures					
Regular Construction Program	(430)	(72)	(323)	251	78%
Emergency Repair Program	(264)	(60)	(194)	134	69%
Others ²	(127)	(12)	(105)	93	89%
Abriendo Caminos	-	(31)	-	(31)	100%
Total Capital Expenditure	(821)	(175)	(623)	447	72%
Operating Expenditures					
Payroll and PayGo	(101)	(79)	(83)	4	5%
Tren Urbano, ITS, and Toll Maintenance	(120)	(86)	(98)	12	12%
Litigation Reserve, ROW Payments, and other OpEx ³	(66)	(18)	(55)	37	67%
Total Operating Expenditure	(288)	(184)	(236)	53	22%
Total Expenditures	(1,109)	(359)	(859)	500	58%
Surplus / (deficit)	24	148	7	141	1930%

Key takeaways

- **Revenues:** While operating revenues exceed budget with higher toll fare collections, negative revenue variance is due to lower federal funding from project delays⁴
- **Capital Expenditures:** HTA has disbursed 28% of its budgeted funds. The agency is 78% behind YTD on its regular construction program due to delivery delays
- **Operating Expenditure:** Lower than budgeted expenses driven by lower than expected litigation reserve, ROW Payments, and other Opex

¹ Includes transit and toll revenues, including toll fines, as well as interest income and proceeds from property sales; ² Includes ROW, design, local construction, Transit CIP, and Hurricane Loss assessment;

³ Includes professional services, building rent, insurance, and utilities ⁴ Formula fund receipts are contingent on HTA's ability to bid & complete projects

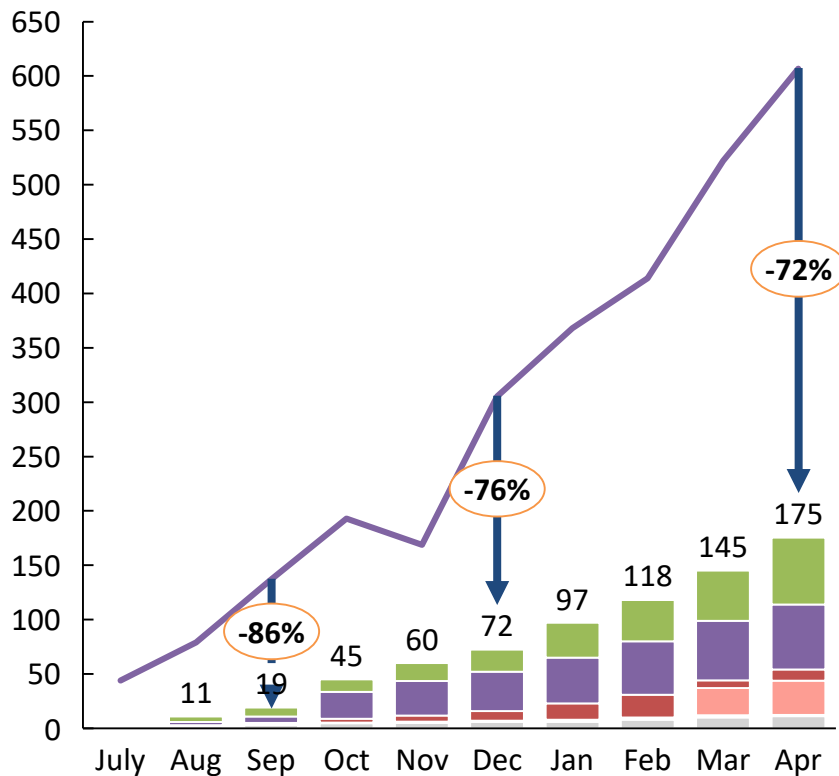
SOURCE: HTA April 2019 Budget-to-Actuals

Capital Improvement Plan (CIP): Disbursements are underperforming the Certified Fiscal Plan year-to-date projections by 72% as of April 2019

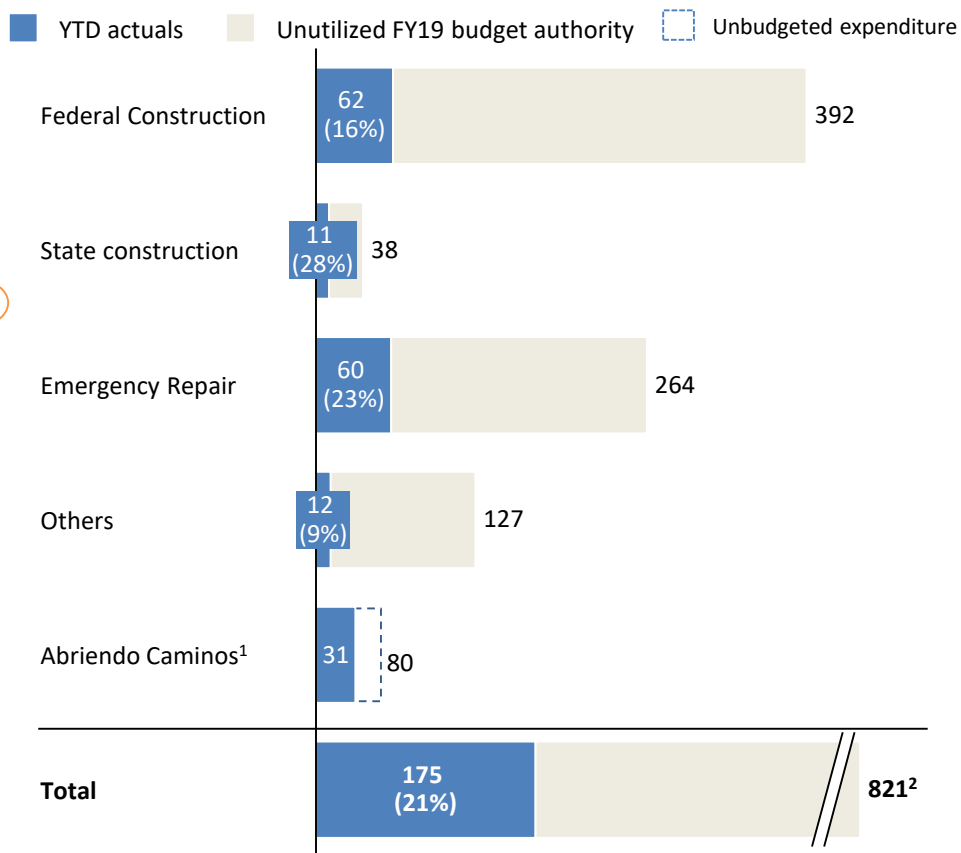
FP disbursement target Federal ER Abriendo Caminos Transit CIP Other Expenses
 Federal construction State construction State ER Hurricane Loss Assessment

CIP disbursements \$M

YTD actuals vs. budget, cumulative monthly disbursements



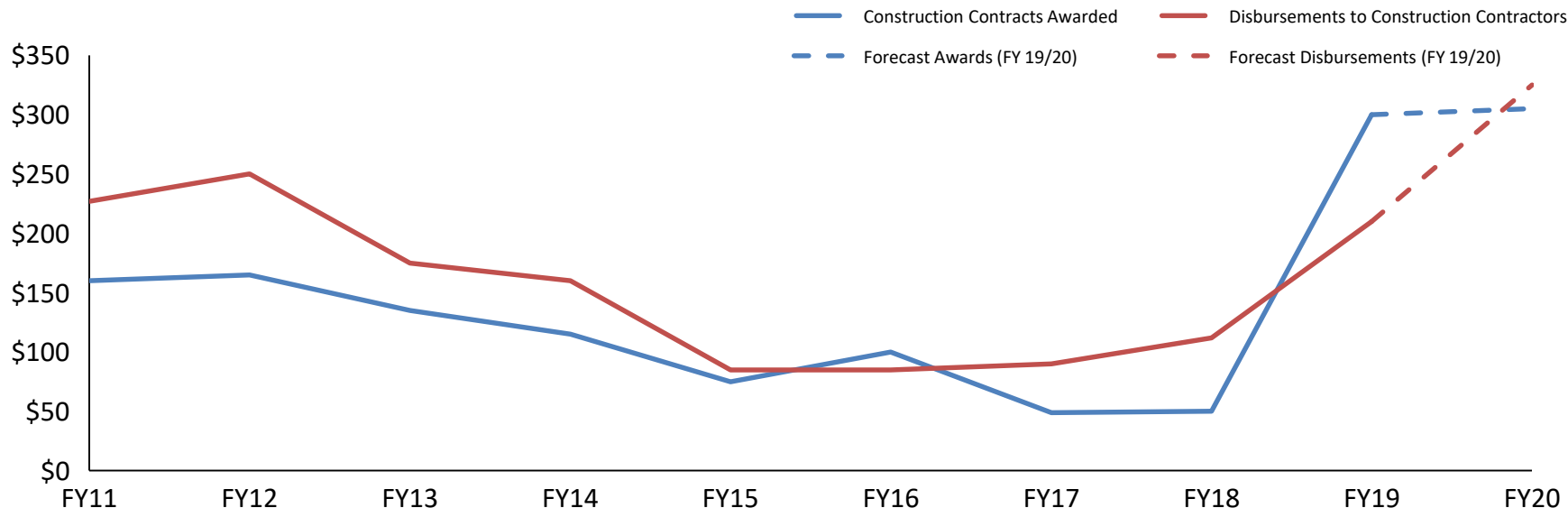
YTD actuals vs. budget by program



Recent focus on contract awards is expected to translate into project acceleration and increases in disbursements

- While disbursements significantly under-performed budget in FY19, efforts focused on contract awards to accelerate future delivery
 - During FY18Q4, HTA engaged FHWA to develop a prioritized set of projects. These projects required development through the pre-construction phases and were planned for bid in FY19
 - During the first two quarters of FY19, several projects in construction were delayed due to a variety of project-related issues, including lack of materials and labor availability and approvals and oversight from within HTA
 - The disbursements in FY19 Q1 and Q2 were well below target. FY19Q3 increased in disbursements and value of awarded projects
- Disbursements are projected to increase in FY20 given the increase in awards. Awards are a leading indicator for disbursement levels. Disbursements typically lag awards by several months, depending on the size and type of the projects. Efforts to increase disbursements must continue to focus on expediting project delivery and accurate and timely contractor payments, pursuant to the FHWA MOU.

Recent and Forecast Contract awards and disbursements, FY11-20, \$M



The above graph does not include disbursements for Abriendo Caminos 1, which includes \$45M of disbursements in FY19 and \$34.5M in FY20

Fiscal measures show mixed implementation performance in FY19: 14% fiscal impact considered on track, 62% at risk, and 21% not implemented

Fiscal measure		FY19 \$M		Status
		Projection	Target	
Enhance org	1 Enhance board composition	-	(0.5)	Delayed
	2 Rollout organizational KPIs	-	-	On track
Increase revenue	3 Increase tolls on existing roads	-	7.3	Not implemented
	4 Increase discretionary funds	-	3.7	Delayed
	5 Toll optimization	(0.3)	2.6	Delayed
	6 Capture ancillary revenue	4.0	0.8	On track
Optimize expenses	7 Optimize CIP	-	18.0	Delayed
	8 Rightsizing	(6.4)	(2.9)	Delayed
	9 Pension reform	-	-	Not implemented
	10 Xmas bonus	-	0.8	Not implemented
	11 Contract re-bid	5.2	3.4	On track
	12 Early exits ¹	2.5	2.5	On track
	13 Traffic reduction	-	-	Delayed
	14 Concessions	-	-	Delayed
Total		5.0	35.7	

On track Delayed Not implemented

Key Takeaways

Organizational enhancements

- **On track:** HTA has introduced updated organization-wide KPIs
- **At risk:** Efforts to enhance board composition are underway but behind schedule by ~7 months

Revenue increase

- **On track:** HTA's implementation of capturing ancillary revenues is above target, achieving \$4.0M against \$0.8M goal for FY19
- **At risk:** Though HTA has begun implementing measures to secure discretionary funds and optimize tolls, the agency has not captured a projected \$6.3M in increased revenues projected for FY19 due to delays and performance issues
- **Not implemented:** HTA has not implemented increased Toll Rates foregoing an additional \$7M of fiscal impact in FY19

Expense optimization

- **On track:** Re-bidding of contracts and early exits have resulted in \$7.7M of positive fiscal impact in FY19, ~\$1.6M better than expected \$5.9M
- **At risk:** HTA has had initial success with rightsizing and has begun implementing CIP optimization and concession measures, but has not yet captured the fiscal impact of these measures due to delays and performance issues
- **Not implemented:** HTA continues to payout Xmas bonuses, foregoing \$0.8M in fiscal impact in FY19, and has not implemented pension reductions

Fiscal Plan Measures – Implementation Status (1/3)

		FY19 \$M		
Fiscal Measure	Description	Projection	Target	Key Updates
1 Enhance Board Composition	<ul style="list-style-type: none"> HTA will establish a new board of directors, which includes four industry expert board members who guide HTA's decision-making and long-term planning and three other members who are important leaders in the transportation sector in Puerto Rico 	-	(0.5)	<ul style="list-style-type: none"> The Government has developed draft legislation, which is being reviewed HTA requested and received initial proposals from executive search firms to locate qualified board candidates HTA will identify board members and submit to the legislature along with the proposed legislation to support approval Upon final approval from the legislature, the legislation will be submitted to the Governor for approval
2 Rollout Organizational KPIS	<ul style="list-style-type: none"> Increase transparency around safety, asset quality congestion and customer welfare, and capital program delivery through performance measurement and tracking 	-	-	<ul style="list-style-type: none"> Executive KPIS have been developed for fiscal plan reporting and are currently reported monthly to FOMB Improved reporting for capex has been developed, and will be deployed in future CIP, construction and pre-construction reporting Additional KPIS around performance management and organizational effectiveness have been incorporated in the revised FP.
3 Increase rates on existing tolls	<ul style="list-style-type: none"> Increase rates on roads with existing tolls with a tiered CPI catch-up 	-	7.3	<ul style="list-style-type: none"> Toll rates have not been increased. This Plan reinforces the importance of this fiscal measure. Estimated fiscal impact projections have been updated in the revised fiscal plan to reflect revisions to CW macro projections and FY19 actuals.
4 Increase Discretionary Funding	<ul style="list-style-type: none"> Secure an increased share of discretionary and recovery grants to support CIP, STIP, and strategic project expenditures 	-	3.7	<ul style="list-style-type: none"> HTA identified an initial list of 12 possible grant funding opportunities and is pursuing them as appropriate Initial CDBG-DR and INFRA Grant applications have been submitted, and HTA is currently awaiting updates on the status of these applications HTA has identified priority bridge reconstruction projects for funding under the CDBG-DR program as illustrative approach to achieve fiscal impact with this measure
5 Toll Optimization	<ul style="list-style-type: none"> HTA will make improvements to processes and controls to collect owed revenue and reduce operating costs on existing toll roads 	(0.3)	2.6	<ul style="list-style-type: none"> Measure originally intended to reduce fine collection costs through improved open road tolling systems that was expected to reduce violations HTA has since terminated its incumbent toll operator in light of severe under-performance (collection rates declined from 60% in FY15 to ~14% in FY19) HTA has expanded the scope of the operational and capital needs of the toll optimization measure in this Fiscal Plan HTA is currently planning rollout of a revamped tolling system, including RSS² and CSS / BOS³, which HTA believes will improve toll operations and violations collection performance

1 HTA's proposed Fiscal Plan no longer includes measures from the June 2018 Certified Fiscal Plan which have been fully implemented (e.g. Early Exits). Savings achieved to-date are presented within the baseline of the fiscal plan.

2 Road-side system

3 Customer Service System / Back-Office System

		FY19 \$M		Key Updates
Fiscal Measure	Description	Projection	Target	
6 Capture Ancillary Revenue	<ul style="list-style-type: none"> Increase revenue from non-toll, non-transfer sources including but not limited to advertisement revenues, real estate dispositions. 	4.0	0.8	<ul style="list-style-type: none"> HTA has sold more than \$3.1M in assets during FY 2019, while another \$870K in assets are currently pending sale Property sales are currently projected to exceed fiscal plan targets by 400% in FY 2019 HTA is currently identifying resources required for optimization of advertising strategy
7 CIP Optimization	<ul style="list-style-type: none"> Improve project prioritization approach and institute best-practices for project delivery to optimize CIP – for example project management approaches, contractor incentives (e.g., ratings/bonuses), and contract structures (passing on delivery risk) 	-	18.0	<ul style="list-style-type: none"> HTA has experienced delays in disbursements associated with its capital program due to an ambitious CIP in the June 2018 Certified Fiscal Plan Market conditions suggest inflation has increased the costs associated with the capital improvement program HTA has conducted a market study which indicates that the Puerto Rican construction market may have insufficient ability to absorb the investments outlined in the previous CIP. HTA has updated its CIP based on these conditions. HTA expects to award \$321M during calendar 2019. This should result in the award of over \$550 million in construction contracts for the 2-years combined Fiscal impact to be achieved through a mix of project prioritization, delivery improvements and soft cost efficiencies
8 Organizational Restructuring	<ul style="list-style-type: none"> Undertake organizational restructuring program including voluntary transition incentives to reduce headcount and optimize organizational structure to achieve 15% in payroll savings 	(6.4)	(2.9)	<ul style="list-style-type: none"> HTA has successfully implemented two rounds of Voluntary Transition Programs, with a total of 334 employee transitions to-date HTA continues to pursue further opportunities to optimize its organizational structure, and has made significant reductions in its planned outsourcing expenditures As HTA reduces headcount, it is pursuing organizational restructuring to maintain and improve effectiveness
9 Pension reduction	<ul style="list-style-type: none"> Reduce pension contributions by 10%, effective from FY21 in line with Commonwealth wide target 	-	-	<ul style="list-style-type: none"> Initiative will be implemented in FY21
10 Health Benefit Savings	<ul style="list-style-type: none"> Maintain benefits at \$125 per employee per month for employees without pre-existing conditions, and \$450 per employee per month for all other employees 	-	-	<ul style="list-style-type: none"> New measure identified within this Fiscal Plan Total fiscal impact of \$3M per annum, capping benefits at \$125 per employee per month for employees without pre-existing conditions, and \$450 per employee per month for all other employees

1 HTA's proposed Fiscal Plan no longer includes measures from the June 2018 Certified Fiscal Plan which have been fully implemented (e.g. Early Exits). Savings achieved to-date are presented within the baseline of the fiscal plan.

Fiscal Plan Measures – Implementation Status (3/3)

		FY19 \$M		Key Updates
Fiscal Measure	Description	Projection	Target	
11 Xmas bonus elimination	<ul style="list-style-type: none"> Elimination of Xmas bonus in line with the Commonwealth Fiscal Plan 	-	0.8	<ul style="list-style-type: none"> HTA did not implement this measure in FY19 and continued to pay Xmas bonuses in December This Plan misses fiscal impact target
12 Contract Rebid	<ul style="list-style-type: none"> Pursue improved contract terms on major operating contracts in order to achieve reductions in total operating costs without reducing service. 	5.2	3.4	<ul style="list-style-type: none"> HTA analyzed and successfully renegotiated one major operating contract with \$3.5M in estimated annual savings, exceeding targets of the Fiscal Plan Remaining contract renegotiations are expected to begin in FY20-21
13 Congestion Management	<ul style="list-style-type: none"> HTA will pursue opportunities to reduce the negative impacts of congestion through the implementation of Dynamic Toll Lanes and Viaducts improvements in critical intersections as well as signaling system optimization 	-	-	<p>Congestion relief (CR) includes three components, the DTL, critical Intersections and traffic signal optimization:</p> <ul style="list-style-type: none"> Measure impacted by 1-year delay of BRT revenue associated with revised DTL timeline and removal of viaduct or flyover tolling revenue² DTL construction <ul style="list-style-type: none"> Contracts worth \$147M in construction and \$35M in the bidding pipeline Expected opening of dynamic toll lanes, with estimated annual revenues of \$6M, in the Fall of 2020 and BRT in late 2022 Critical Intersection projects <ul style="list-style-type: none"> Traffic analysis and cost benefit analysis were used to establish priorities and a preliminary project list was developed Conceptual designs have been completed and contracting for preliminary design of projects is underway Preliminary disbursement schedule was developed for this initiative
14 Concessions	<ul style="list-style-type: none"> Evaluate concession opportunities for PR-52 and other roads Concessions on key routes could present HTA an alternative operational model and attract private investment 	(0.1)	(2.5)	<ul style="list-style-type: none"> HTA has identified third-party technical, commercial, and financial advisors and has developed their associated scope of work Development of alternative concession models is in progress HTA is in the process of evaluating concession alternatives within the constraints of Fiscal Plan and determining the feasibility and desirability of preferred concession model vs. outsourcing initiative Workstream expected to be finalized during FY20

1 HTA's proposed Fiscal Plan no longer includes measures from the June 2018 Certified Fiscal Plan which have been fully implemented (e.g. Early Exits). Savings achieved to-date are presented within the baseline of the fiscal plan.

2 HTA deemed the tolling revenue associated with these projects was not enough to justify increased CIP investments and diminished congestion reduction

II. DESCRIPTION OF HTA

Puerto Rico Highways and Transportation Authority

Mission

Lead Puerto Rico towards economic development through an efficient transportation network, safely and in accord with the environment, while procuring the delivery of excellent service

Vision

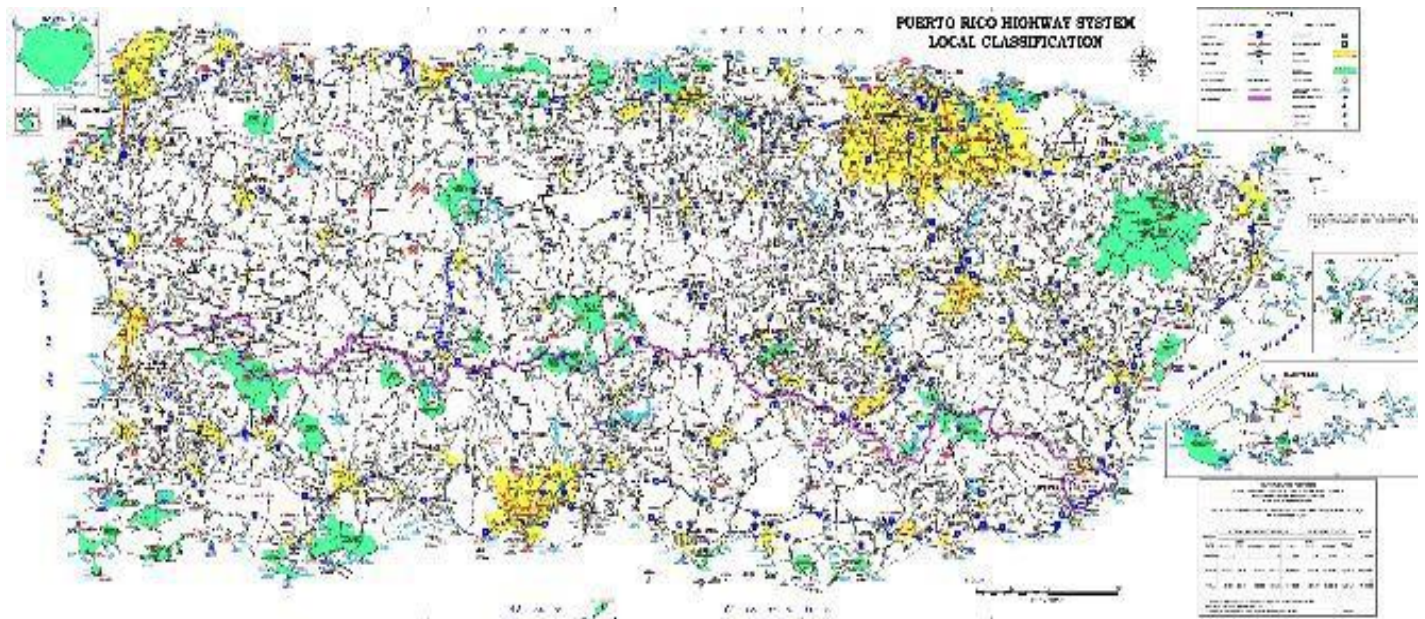
Develop and promote an integrated transportation network that, along with a highway infrastructure and service delivery, will facilitate the economic development of Puerto Rico in harmony with the environment

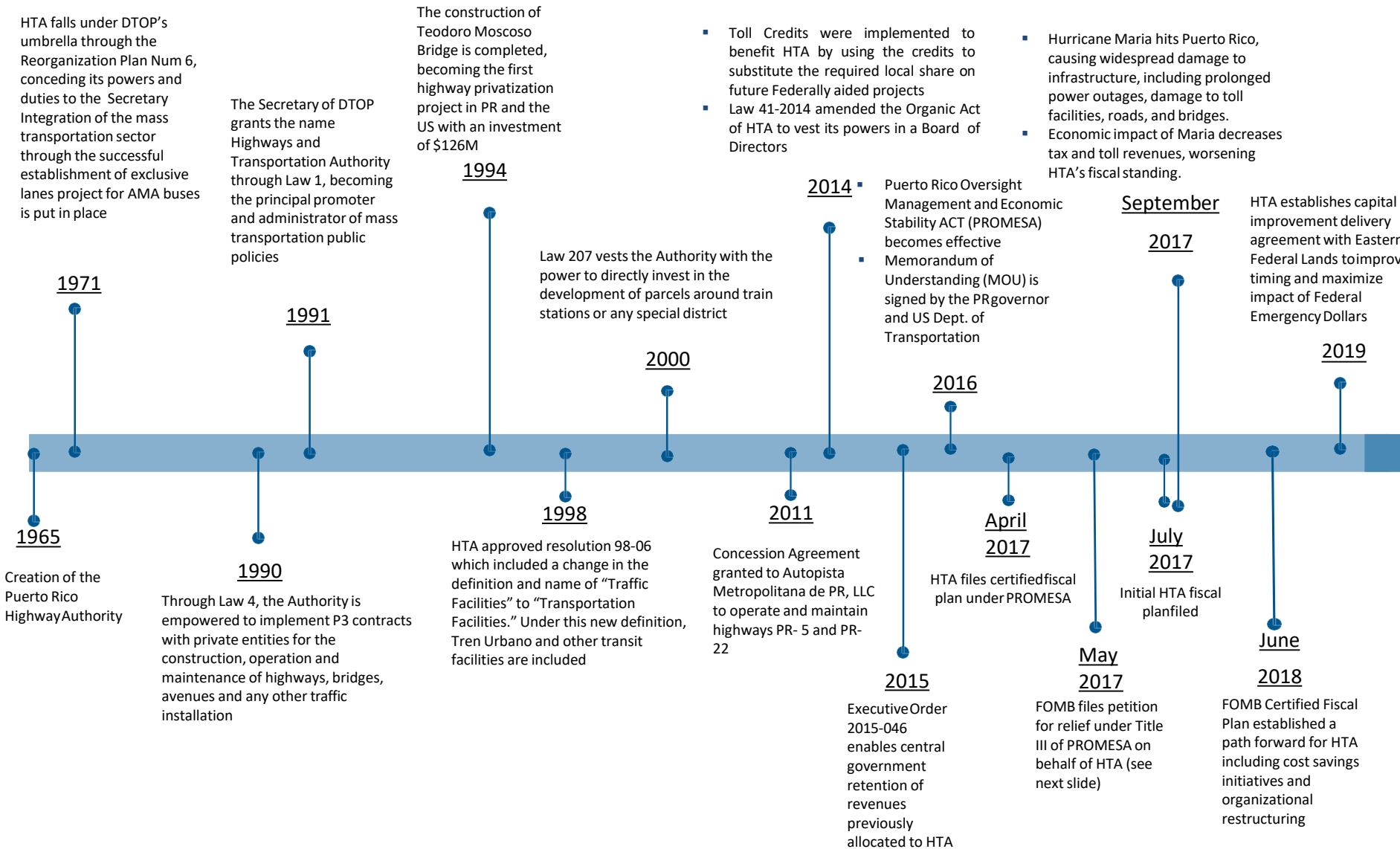
About HTA

- HTA is a public corporation founded with the purpose of continuing the government's effort of providing the public with the best highways, easing the flow of vehicles, and minimizing the risks and inconveniences that traffic congestions may cause
- HTA is charged with constructing, operating, and maintaining Puerto Rico's toll road network, major highways and mass transportation facilities, which are financed by revenue bonds, federal grants and specified tax revenues
- The Puerto Rico State Highway Network consists of a total of **4,605 miles**:

Breakdown by type of Road:

Toll Roads (incl. PR 22 & 5) –
185.6 miles
Primary Roads (incl. Urban) –
986 miles
Secondary & Tertiary Roads –
3,434 miles
Total = 4,605 Miles







Financial Sustainability, Federal Agencies & PROMESA

- The **Puerto Rico Oversight, Management, and Economic Stability Act (PROMESA)** establishes a process for the restructuring of debt towards sustainable levels but not before the certification of its Fiscal Plan by the Oversight Board. HTA has commenced a potential restructuring under Title III of PROMESA and will continue to work with all the federal agencies (including FTA & FHWA) as partners throughout the Title III process in order to achieve our common objectives.
- HTA receives about \$158.8M per year from FTA and FHWA. Conditions of this funding require that the grantee demonstrate specific and well-defined technical, financial and organizational capabilities. There are federal requirements associated with continued operation and disposition of grant-funded assets that constrain HTA's flexibility to some extent.
- FTA and FHWA agreements require continued operation of grant-funded assets, limiting HTA's options for reducing operating costs related to programs which relied on central government revenue which has since been retained
- HTA recognizes that its continued partnership with Federal partners, including FHWA and FTA, is critical to the continued development of the Commonwealth's transportation network and the health of Puerto Rico's economy. HTA will continue to work collaboratively and inclusively with federal agencies to ensure it meets all federal funding requirements.
- HTA has been in active discussions with FHWA to reprioritize its capital improvement program to address the impact of Post-Maria on the construction market, as well as to address capacity enhancement outlined in the 2016 MOU. These discussions have also addressed consulting other state level transit agencies and federal entities operating in Puerto Rico to advance the execution of the CIP.

HTA receives federal funds from two agencies, the Federal Transit Administration (FTA) and the Federal Highway Administration (FHWA). This funding requires a grantee to demonstrate that it has specific and well-defined technical, financial, and organizational capabilities.

	<div>U.S. Department of Transportation Federal Highway Administration</div> <div>FHWA</div>	<div>Federal Transit Administration</div> <div>FTA</div>
Agency Description	Agency within the U.S Department of Transportation responsible for administering the federal-aid highway program and highway transportation programs of the Department of Transportation	Provides financial and technical assistance to local public transit systems, including buses, subways, light rail, commuter rail, trolleys and ferries. The FTA also oversees safety measures and helps develop next-generation technology research
Grantee Compliance Requirements	<p>According to 23 U.S.C. § 302 and Title 23 of the Code of Federal Regulations, any state needs to be suitably equipped and organized to discharge to the satisfaction of the Secretary the duties required by this title. In the following areas:</p> <ul style="list-style-type: none">▪ Payment procedures▪ Planning/Environmental▪ Design- Highway Standard/ Design Criteria▪ Construction and Contracting Procedures-▪ Transportation Infrastructure Management-▪ Maintenance- Properly Maintenance all Roads▪ Right of Way and Environment	<p>To become a grantee of FTA, HTA is required to meet the following minimum criteria:</p> <ul style="list-style-type: none">▪ Legal Capacity▪ Technical Capacity▪ Proven Financial Capacity▪ Disadvantage Business Enterprise▪ American with Disabilities Act Compliance▪ Title IV (Civil Rights) 48 U.S.C §5301 <i>et seq.</i>
Risks of Non-Compliance	<p>Non-compliance with federal laws and regulations or diversion of highway revenues may result in:</p> <ul style="list-style-type: none">▪ Suspension of funding▪ Lack of maintenance and essential services that will cause highways to deteriorate▪ Transportation of goods and emergency services will be hindered▪ HTA and FHWA are currently operating under a memorandum of understanding (MOU) which stipulates requirements to maintain federal funding.	<p>The default of HTA with any of its obligations (mainly bond debt) may trigger questions as to its financial capacity leading to a potential loss of federal funds. If, during the useful life of the property, the recipient unreasonably delayed or failed to use the federally assisted property for its originally intended purpose, recipients may be required to return the entire amount of federal assistance spent on the award or federally-assisted property. However, this Fiscal Plan is designed to mitigate this risk by closing any operational financial gap for the six-year period, subject to the realization of projected revenues, fiscal measures, and fund transfers from both Federal and PR Governments.</p>
Max Available Funding ¹	\$138.8 million/year	\$20 million/year

1 Maximum available funding represents annual Congressionally authorized funds for assisting States in the design, construction and maintenance of the Nation’s highway system and does not include emergency reconstruction grants. Maximum available funding may not equal that of obligated funds and/or actual expenditures. Includes \$3.8M return from PR Transit Safety Commission and does not include penalty for National Minimum Drinking Age (23 USC 158) which if established would increase the annual allocation by nearly \$10M

	Requirements ¹	Potential penalties / remedies
Transportation Performance Management (TPM)	<ul style="list-style-type: none">Periodic reporting on the baseline and status of various initiatives regarding safety, pavement and bridge conditions, system and freight performance, traffic congestion, or emissionsExample: No more than 5% of pavement can be classified as in Poor condition	<ul style="list-style-type: none">Funding penalties to be applied when these conditions are not achievedExample: When pavement targets are not met, State DOT must obligate NHPP and transfer STP funds
Memorandum of Understanding (MOU)	<ul style="list-style-type: none">Develop plans to address deficiencies in Federal Aid billing, toll accreditation, organizational capacity development, and expediting project deliveryStatus reporting to FHWA to receive guidance	<ul style="list-style-type: none">Failure to meet conditions can lead to discontinuation of funding, or in some cases, discontinuation of the ability to administer the States Federal Highway Program
Single audits	<ul style="list-style-type: none">States with federally funded major programs provide reasonable assurance that compliance requirements are met and that the Financial Statements are fairly presented	<ul style="list-style-type: none">Auditee must issue a corrective action plan for each significant finding and material mis-statement. Auditee may result with a High Risk designation if findings aren't mitigated
Tolling Revenue and Credits	<ul style="list-style-type: none">Funds received from tolls / concessionaires to be used for Title 23 eligible costsBalances of toll credits to be accounted and utilized over time	<ul style="list-style-type: none">Failure to meet Federal Requirements may result in the retention of grant reimbursements and halt the use of toll credits for state match on Federal Highway and Transit projects

¹ HTA will work with FHWA and FOMB to address these requirements and transactions going forward



A Memorandum of Understanding (“MOU”) between HTA and the US Department of Transportation FHWA, signed on **February 29, 2016** identifies targeted improvements required by HTA in order to maintain federal funding eligibility.

FHWA MOU Requirements are divided into four separate objective areas, each with several goals:

MOU’s Objectives:

- **FEDERAL-AID BILLING PROCEDURES**

Paying all contractors within 40 days of receipt of invoices.

- **TOLL CREDITS**

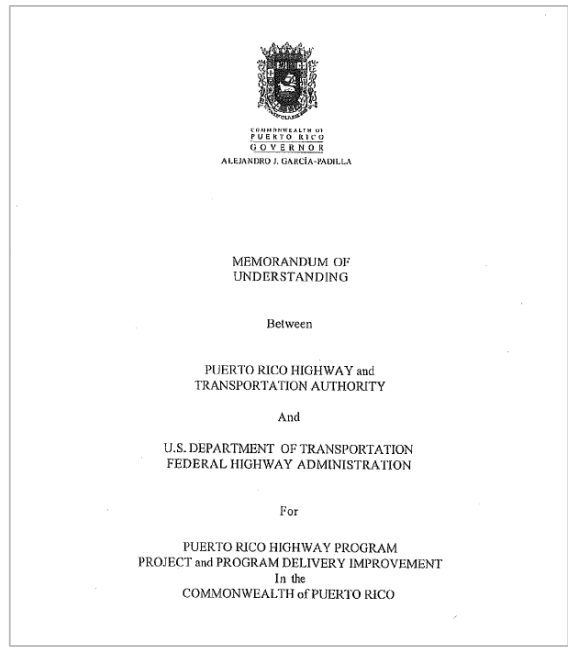
Improve management and utilization of Toll Credits Program.

- **ORGANIZATIONAL CAPACITY DEVELOPMENT**

Transform HTA through an Organizational Capacity Initiative.

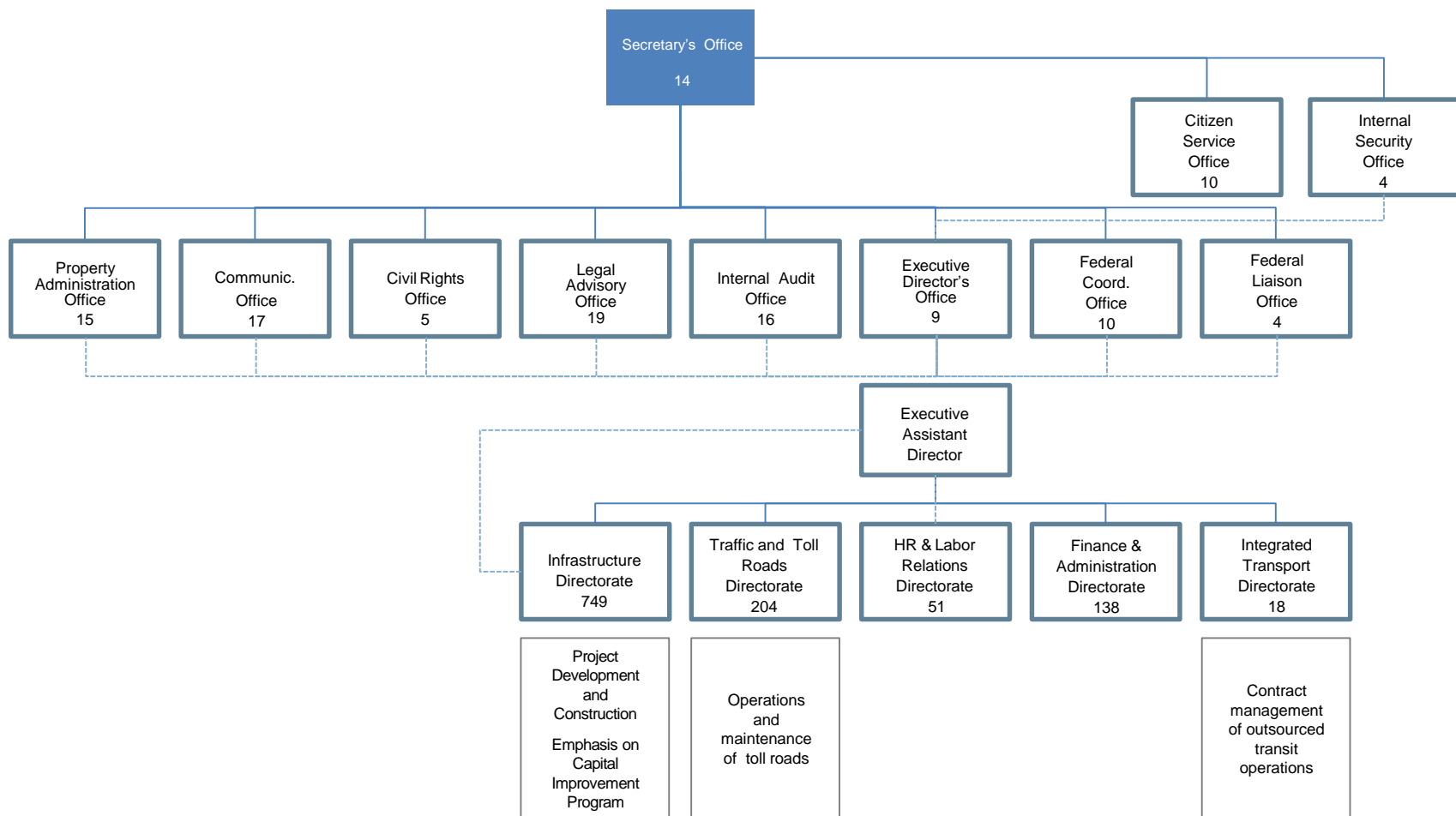
- **EXPEDITING PROJECT DELIVERY**

Develop a plan of action & schedule for recovery of delayed projects. Procure improved systems such as email, project management and finance systems.



Additional Information on HTA’s MOU implementation are available in Appendix B

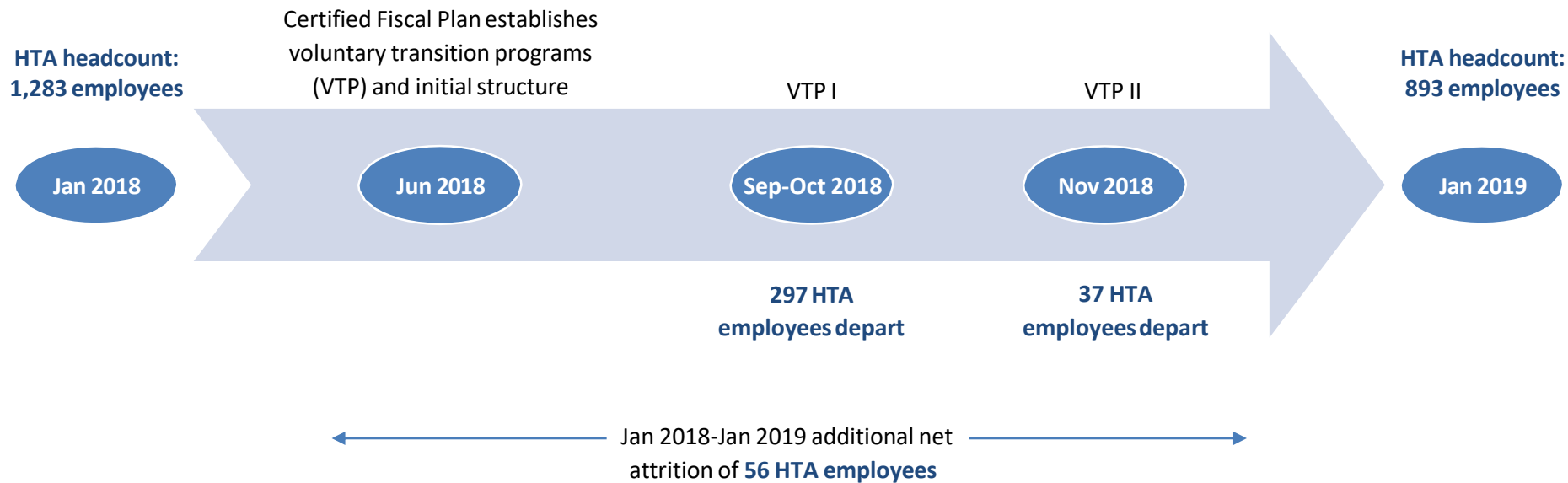
In January 2018, before reorganizing, HTA had a total head count of 1,283



Going forward, HTA will establish a new organizational chart that reflects the achievements of the organizational restructuring program to date.

- Special relation between advisory offices that directly report to the Secretary and, at the same time, provide services and advice to the Executive Director
- - - Special relationship of counseling and coordination between offices or areas
- . . . Special relation between administrative and finance phases

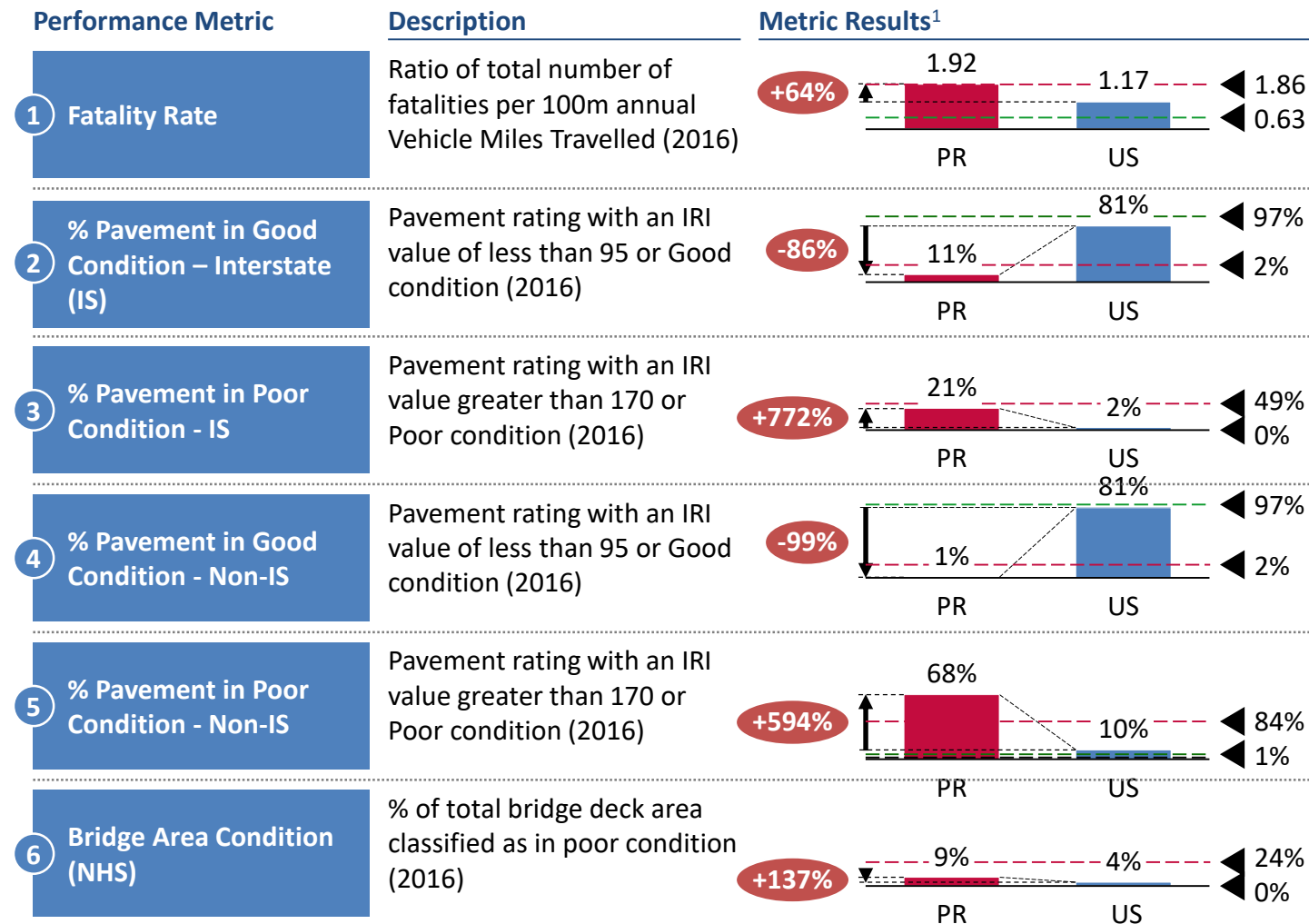
HTA had reduced headcount from 1,283 to 893 between January 2018 and January 2019 through two rounds of voluntary transition programs and natural attrition



The HTA 2019 fiscal plan update, filed in April 2019, leaves open the possibility of additional voluntary transition programs

Before Maria, Puerto Rico's road system was underperforming in nationwide highway KPIs, compared to other states

--- Top state²
--- Bottom state²



- National Safety Goal on is to have a significant reduction in the fatality rate, while target is set by state at 1.85 for fatalities by 2018
- National goal is to maintain the highway infrastructure asset system in a state of good repair
- HTA will monitor performance against these key metrics, and strive to make improvements in road and bridge conditions and safety within its budgetary constraints

1 Compares Puerto Rico's performance vis-a-vis the United State median calculated across all states and DC in a pre-Maria context (2016 data) 2 Includes states and DC data points for ranking purposes
SOURCE: <https://www.fhwa.dot.gov/policyinformation/statistics/2016/fi30.cfm>; <https://cdan.nhtsa.gov/SASStoredProcess/guest#>;
<https://www.fhwa.dot.gov/policyinformation/statistics/2016/hm64.cfm>; <https://www.fhwa.dot.gov/bridge/nbi/no10/condition16.cfm>

- **Infrastructure Damage:** Roads, bridges, were damaged in the hurricane, and major projects were delayed due to the temporary realignment of resources towards recovery. HTA was unable to execute planned capital improvements, focusing instead on emergency repairs to bring infrastructure back online.
- **Public Transit Damage:** Several Tren Urbano (TU) stations were damaged by Maria, with limited service returning in late December
- **Revenue:** Revenue from operations were severely depleted in the wake of Hurricane Maria. Toll plazas were damaged or left without power, TU and several bus lines were left temporarily inoperable, and both traffic and ridership were greatly reduced.
- **Economy:** Hurricanes contributed to greater-than-anticipated economic decline, leading to a long-term reduction in revenue, traffic, and ridership
- **Insurance and aid:** FEMA grants and insurance proceeds are expected to partially finance some capital improvement projects necessitated by Maria's damage, and offset some of the negative economic impact of the storm



Hurricane Maria caused an estimated \$206M in damages to HTA's non-highway assets, some or all of which may be covered by FTA ER Grants and insurance

HTA is pursuing three grants to recover the estimated \$206M in damages to Tren Urbano:

Grant 1: Emergency Repairs and Partial Emergency Repairs

- Response and Recovery before 6/17/18 (\$4.67M): HTA has submitted this grant requests, which is pending final stages for award
- Response and Recovery after 6/17/18 (\$24.9M): FTA has jointly reviewed most of these expenses and confirmed eligibility. Grant application pending full review of expenses and application of property insurance disbursement of \$1.5M.

Grant 2: Permanent Repairs¹

- Rebuilding Estimates (\$140.4M): HTA has worked with FTA to add this grant with current estimates to be revised upon engineering services completing a scope of work. Eligibility confirmation pending completion of emergency repairs grants.

Grant 3: Resiliency Projects²

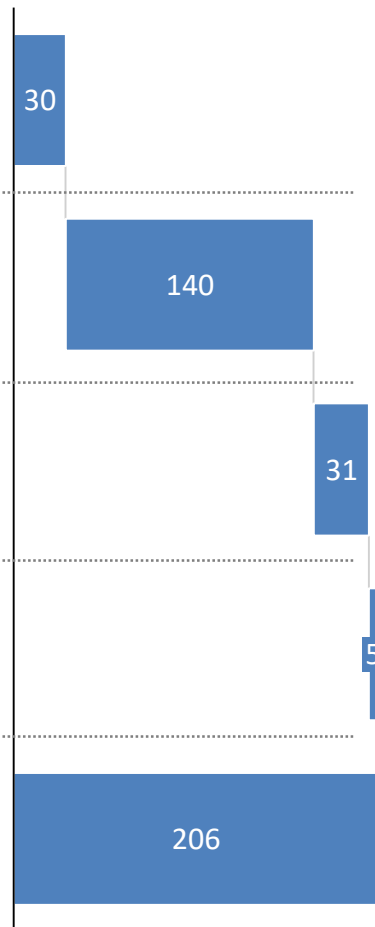
- Resilience Projects (\$31.2M): HTA must select which transportation related projects will be included and submit a final list for joint discussion and eligibility evaluation by FTA

Non-FTA Reimbursable

- Business Interruption Income³ (\$2.5M)
- FTA Preventative Maintenance Grants (\$2.6M)

Total⁴

Total w/ contingencies \$M



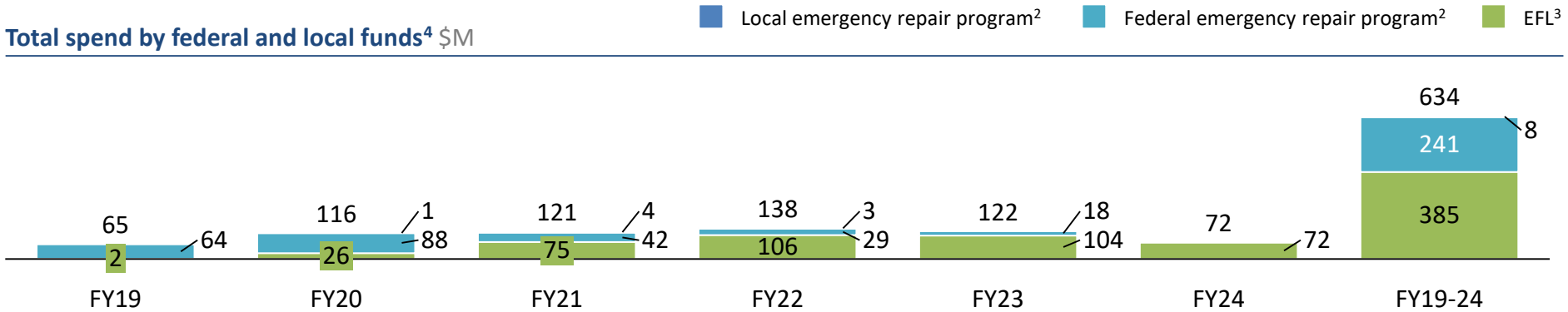
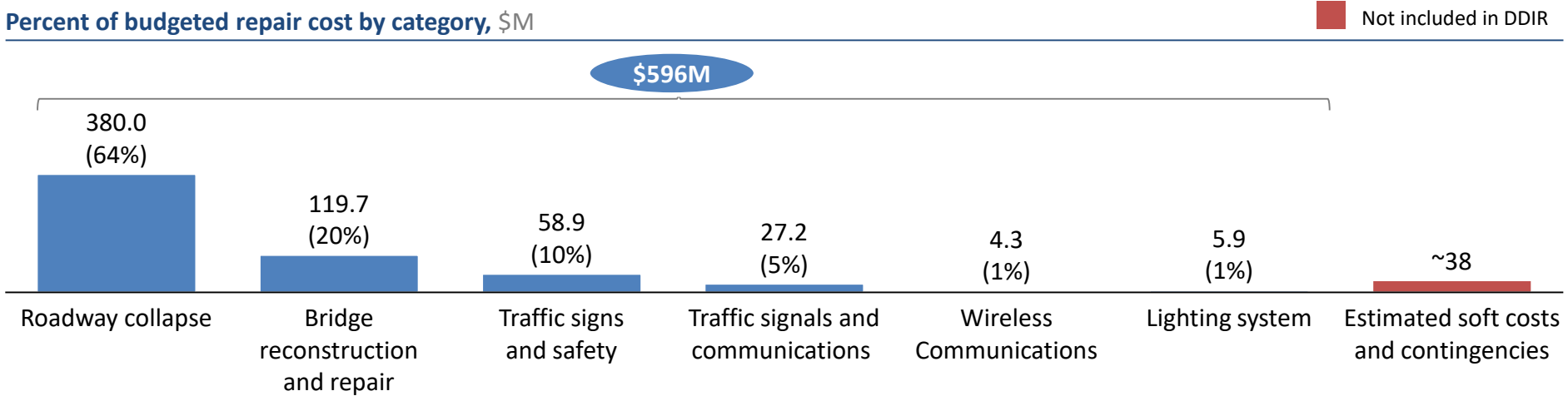
¹ The above rough order of magnitude cost are based on estimated damages, including latent defects. A final cost evaluation to meet current construction codes and/or state-of-good repair status will require further evaluation and may result in changes to referenced damage estimate costs.

² Subject to FTA project eligibility revision. Additional details on planned grant applications are available within the Transit CIP.

³ Limited service observed in the period covering from December 19, 2017 to May 20, 2018

⁴ Insurance and aid: FEMA grants and insurance proceeds are expected to partially finance some capital improvement projects necessitated by Maria's damage, and offset some of the negative economic impact of the storm.

Puerto Rico’s highways suffered significant damages following Hurricane Maria. As of February 2019, HTA estimated that repairs would cost a total of **\$596M¹** across **1,175 Detailed Damage Inspection Reports (DDIRs)**. Over half of the total spend will go towards repairing collapsed roads, with another 20% going towards bridge repair and reconstruction.



1 Excluding soft costs and contingencies
2 Amounts retained in HTA's books only
3 \$385M in Emergency Repairs outsourced to Eastern Federal Lands (not in HTA's books)
4 Includes soft costs and contingencies



- Complete comprehensive damage assessment and collect information for emergency grants:
 - Assessed Road Network, Identified \$596M in damages
 - Assessed Transit, Identified \$206M in damages

- Submit requests for additional grant funding and complete insurance claim process:
 - FHWA, FEMA, FTA, CDBG-DR: Initial claims made for disaster relief funds
 - Insurance claims submitted. Some initial funds received.

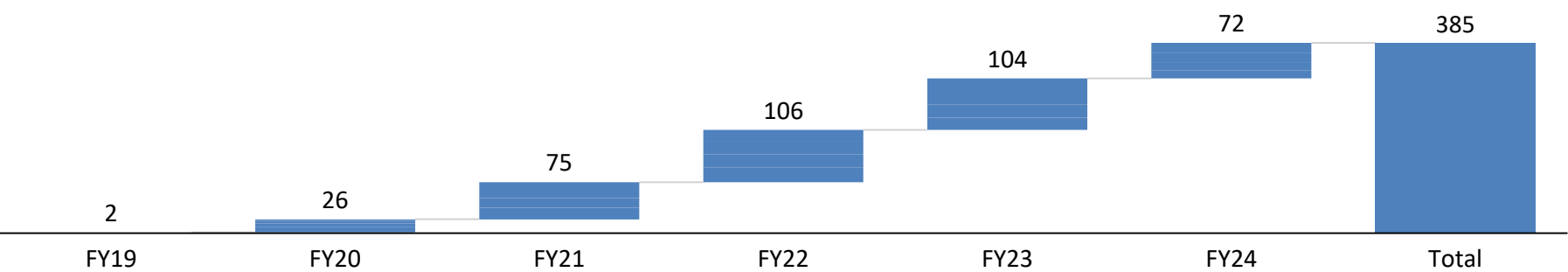
- Establish organizational structures required to properly apply grant funding:
 - Developed internal capacity to deliver expanded capital programs
 - Established Strategic Partnership for funds execution with Eastern Federal Lands

- Deploy recovery funds for repair and recovery, and establish a timeline to normalize operations:
 - HTA estimates a total of \$191M in direct ER spending (highway network), \$80M in direct ER spending (transit) and a total of \$384M EFL ER spending during the Fiscal Plan period
- Ensure processes efficiently and accurately seek reimbursements of ER costs

Coordination with Eastern Federal Lands Highway Division (Federal Aid Roadways)

- HTA has signed two Memorandums of Understanding (MOU) with Eastern Federal Lands Highway Division (EFLHD), a division of FHWA, for EFL to manage the permanent repairs associated with landslides, signage, safety devices and replacement of modular bridges as part of the Emergency Relief (ER) Program funding
 - Construction Engineering and Inspection (CEI) services for active emergency repairs within the Federal-Aid Highways
 - Improvements to Puerto Rico’s roads as part of the permanent repairs, prioritizing roads still affected by landslides or washouts.
- EFL will bring additional resources and capabilities to the recovery efforts, while HTA maintains an aggressive highway reconstruction program, congestion management initiatives and the execution of discretionary grant projects
- HTA is transferring responsibility for execution of many ER projects to EFL, resulting in \$385M in hard costs being removed from HTA books from FY19-24, as depicted below. The additional funds needed for the execution of the second MOU will depend upon future authorizations and appropriations from Congress for the ER Program.
- HTA will retain approximately \$191M in costs on its books related to ER projects:
 - Federal Emergency Repair Program: \$183M
 - FEMA cost match: \$8M
- HTA is developing performance metrics for the EFL work and will designate a point of contact for EFL and receive monthly progress updates to oversee and manage the performance of the work

Projected disbursements from EFL, FY19-24, \$M



1 Future-year expenditures subject to change based on congressional appropriations. Above schedule provided by EFL.

III. INFRASTRUCTURE AGENDA

Infrastructure Agenda: Summary

- **Objectives:** In the Revised Fiscal Plan, HTA sets a highly ambitious infrastructure agenda to improve the condition and performance of Puerto Rico's transportation network to improve economic growth across the island
- **Challenges:** In FY19, HTA has delivered only 28% of the budgeted capital program outlined in the June 2018 Fiscal Plan. HTA identified two categories of core challenges affecting delivery: (1) market constraints due to factors such as labor shortages and inflation; and (2) organizational capability gaps and inefficiencies due to a lack of agility.
- **Renewed approach:** HTA has committed to optimizing effectiveness and impact of its capital program by:
 1. Developing an investment prioritization approach;
 2. Integrating best-practices in CIP delivery; and
 3. Ensuring continued maximization of federal funding from FHWA and FTA¹
- HTA undertook a multi-month process to update its CIP with a new disbursement schedule and prioritized projects. To mitigate the delivery challenges experienced to date, HTA identified and is pursuing three categories of action to optimize project delivery:
 - **Improved prioritization:** Planned projects for the Revised Fiscal Plan Period will focus on highway safety projects, congestion relief, the improvement of existing infrastructure, and the improvement of buses and the TU train system
 - **Process improvement:** New internal processes and training will be instituted including increasing transparency
 - **Federal resourcing:** Outsourcing the Emergency Repair program to Eastern Federal Lands and maximizing the obligation of Federal funding to support economic growth
- HTA expects to execute a capital program of \$558M in FY20 — \$251M in Federal Construction, \$210M in State Construction, \$82M in ER, and \$15M in other construction—a significant increase over the capital program in the June 2018 Fiscal Plan. The initial years of the Revised Fiscal Plan capital program reflect project disbursement schedules from existing project pipeline, while outyears assume a level of investment required to maintain the system in a state of good repair. The program objectives remain to significantly improve safety, asset quality and performance.
- **Ongoing mitigation of implementation risks:** Existing conditions in the construction market may affect the implementation of the CIP as envisioned by HTA for FY2020. HTA will closely monitor market response and will provide prompt and adequate notice of how such market conditions are affecting the CIP and what measures need to be taken in response thereto to minimize the effects.

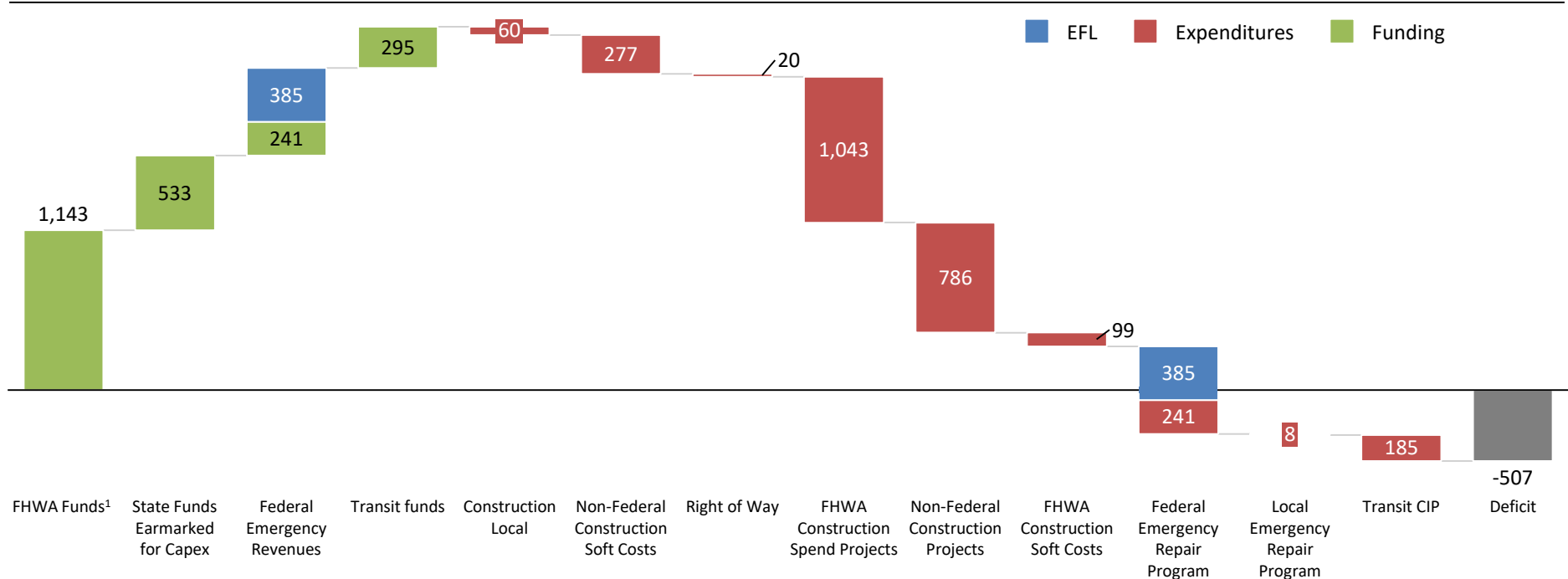
¹ HTA obligates as much federal funding as possible to support economic growth. The current federal match is 80.25% of project costs for eligible projects, with the state matching 19.75% (exception: 100% for emergency relief). Currently, HTA uses toll credits to cover the spend requirements of the state match.

In order to maintain its assets in a state of good repair, comply with federal requirements, and invest in critical economic development projects, HTA estimates that it will need **\$2.7B²** of capital expenditures (not including capex optimization measures), from FY19 to FY24, of which:

- \$1.1B is for FHWA Construction Projects¹
- \$1.1B is for Non-Federal Construction Projects, including Hard and Soft costs
- \$241M in Federal Emergency Revenues is restricted to Federal Emergency Repair Program
- \$385M in Eastern Federal lands emergency spending, which is not on HTA’s books, but is presented below for comparison purposes

During the six-year period, HTA’s CIP expenses exceed revenues by **\$553M. This deficit will need to be funded by operating revenues or allocations from Central Government.**

FY19-24 CIP: Revenues and Expenses, \$M



1 Amount shown for FY19-24 is greater than \$138.5M FHWA allocation to HTA due to undisbursed but allocated funds from previous fiscal years that are expected to be disbursed over this period. Level of federal funds subject to FHWA requirements as previously outlined in the Revised Fiscal Plan

2 Excluding EFL

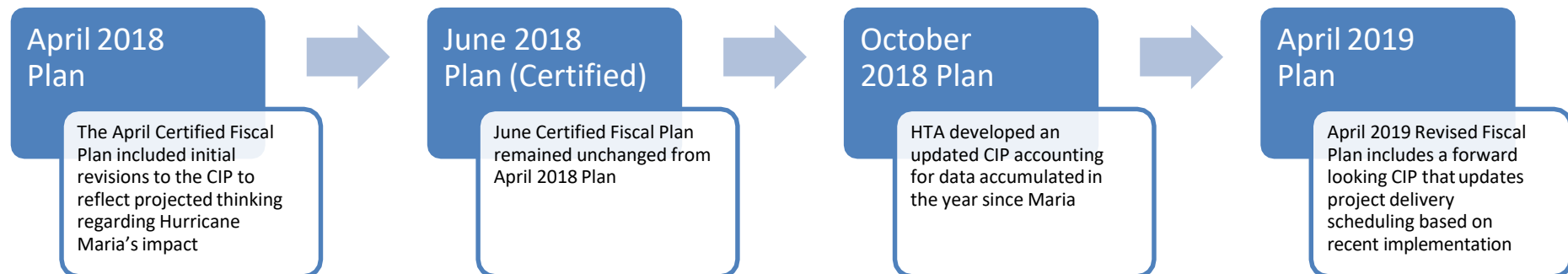
Revised HTA Fiscal Plan32

HTA's updated CIP prioritizes projects based on road metrics and data, with a goal of programming projects based on the level of impact provided to the people of Puerto Rico

The CIP in the April 2018 Fiscal Plan, which was not updated in the June 2018 Certified Fiscal Plan, included high level delay estimates due to Maria. A comprehensive revision was not completed at the time due to insufficient data and HTA's capital planning staff capacity.

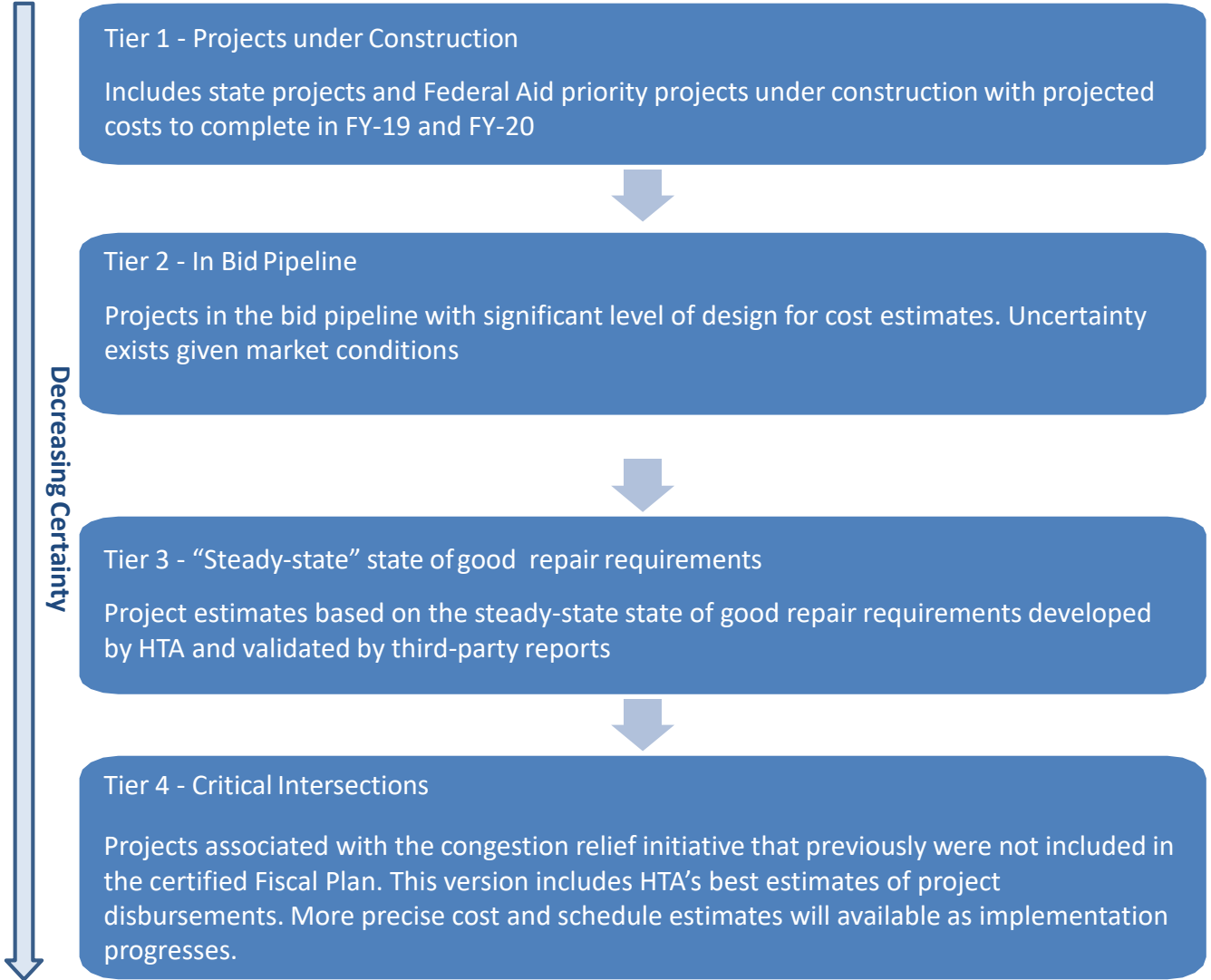
The revised CIP is still a preliminary document given FHWA requirements, inflation, and the post-Maria market conditions create an uncertain environment for infrastructure capital planning. HTA intends to revisit the CIP every six months to review performance and consider any adjustments required to the plan.

CIP Revision Timeline



General Process

HTA's updated CIP has been developed in four levels:



Soft Cost Revisions

HTA's revised CIP aims to better segment Federal and non-Federal dollars to reduce preconstruction regulatory burden. The use of federal funds for hard costs and local funds for soft costs. In its revision process, HTA developed an analysis of available federal funds for hard costs to develop the updated CIP.

The federal fund analysis indicates that an additional ~\$52M federal funds are available to be used for hard costs. The federal hard cost maximizing model moves local construction costs into the federal program to make use of these federal funds.

HTA's Certified Fiscal Plan develops an aggressive highway reconstruction program, tailored to the highway network reconstruction. The following table summarizes the initiatives carried out by the HTA to develop the reconstruction program, included in the CIP:

Strategies Already Executed in FY19 or to be Executed before end of FY20 to Improve Project Delivery (Pre-Construction)

Initiative Number	Objective	Description	Results	Implementation Date
HTA-PDP-07	Project Delivery Improvements - Resources	HTA signed MOUs with EFLHD and PRIFA to provide support to HTA on bid execution and construction engineering and inspection	MOUs signed. MOU intends to increase HTA's capacity to procure ER Program and Abriendo Caminos without adversely affecting the regular bid program	March 2019
HTA-PDP-06	Project Delivery Improvements - Resources	HTA assigned resources to Bid and Estimate Office for procurement. In addition, assigned personnel for project scheduling and oversight	A resource loaded schedule was developed based on the proposed bid schedule. Lead engineer assigned to monitor and report on progress. Three weeks look ahead tables were developed. Weekly meetings were programmed to discuss delays and catch up opportunities.	April 2019
HTA-PDP-08	Project Delivery Improvements – Process Improvements	FHWA delegation on PS&E ¹ approval	FHWA delegated to HTA the approval of PS&E. HTA established a SOP for this delegation. During early May 2019, HTA started the approval process of PS&E.	May 2019

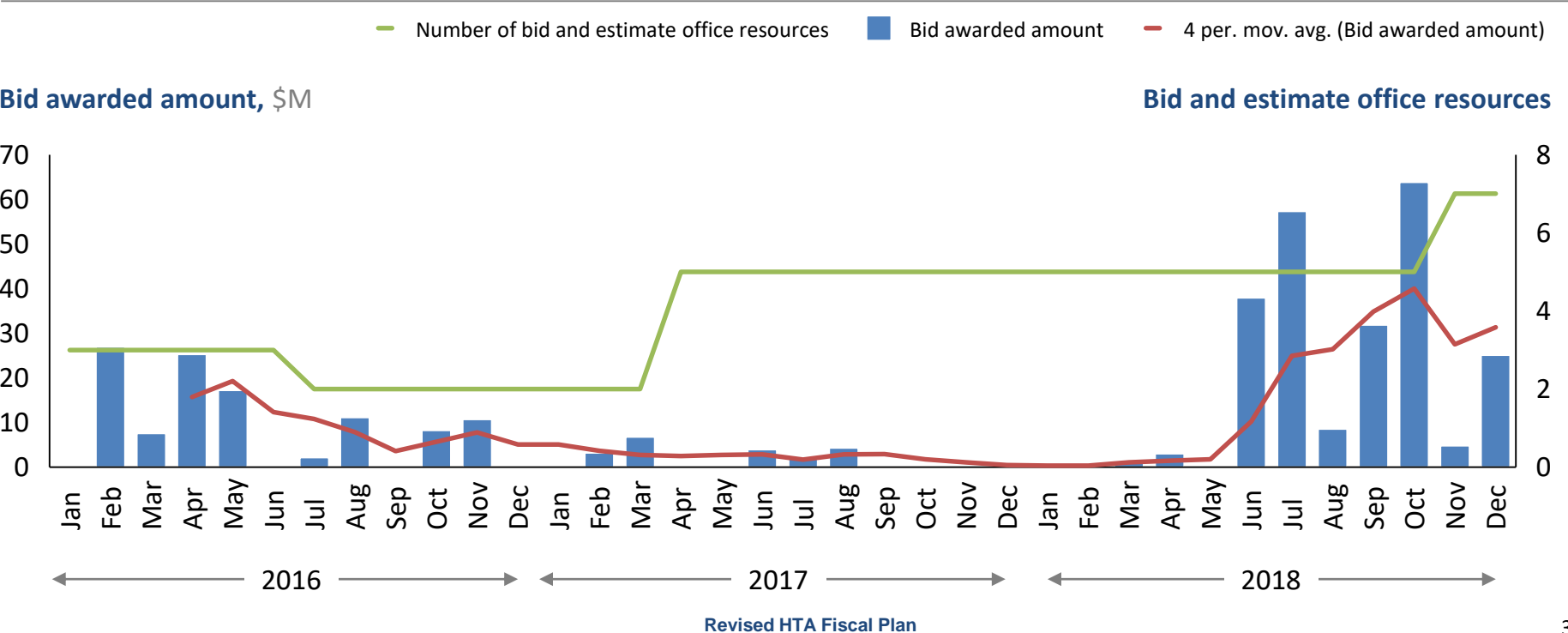
¹ Plan, Specification and Estimate

In FY19, HTA implemented several initiatives to improve its ability to run and manage procurements:

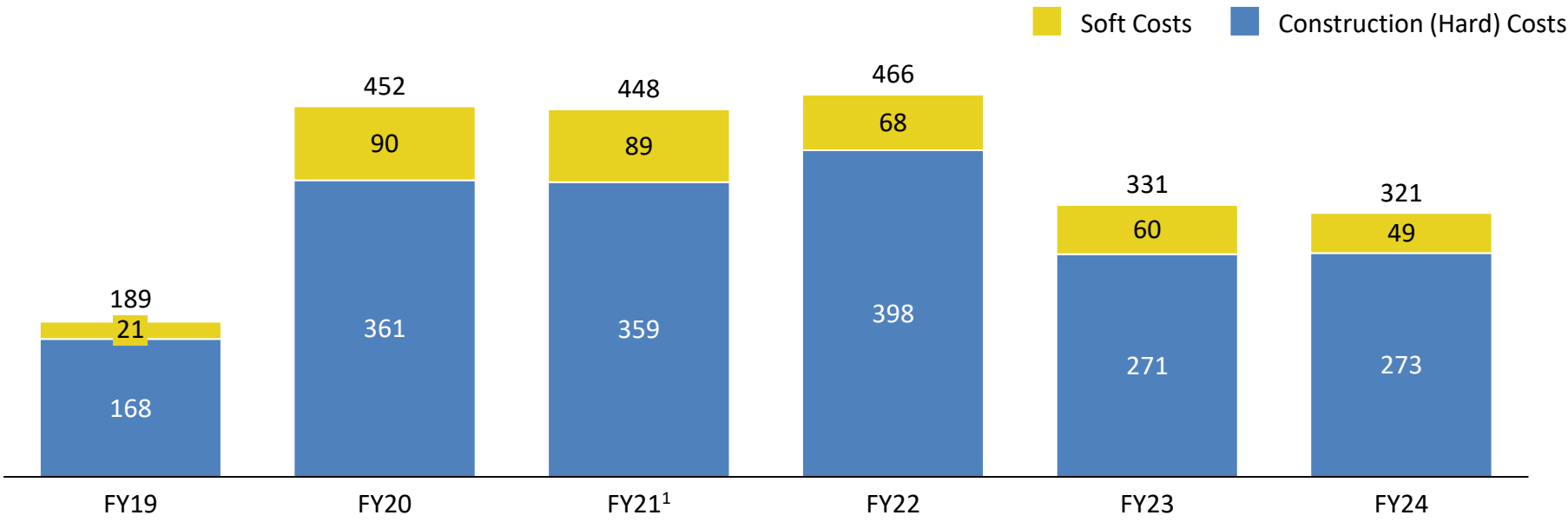
- HTA assigned additional contract resources to Bid & Estimate Office for Procurement and assigned personnel for project scheduling and oversight
- HTA signed an MOU with EFLHD to manage the administration of Federal Emergency Repair funding
- HTA signed an MOU with the Puerto Rico Infrastructure Financing Authority (PRIFA) to provide support to HTA on Bid execution and Construction Engineering and Inspection
- HTA received the delegation of plan, specification, and estimate approval, allowing HTA to more-rapidly approve projects.

These efforts supported improved bid performance in FY19, which are expected to improve disbursement performance in FY20

Bid resources and project awards (2016-18)



CIP disbursement schedule of hard and soft costs, FY19-24, \$M



Main Assumptions:

Construction Assumptions:

- Federal and local capital expenses for FY19-FY20 were developed using project-specific costs for active projects and projects in the pipeline
- FY21-24 estimates were developed using CIP projections for state and federally funded disbursements projects based on the level of total spending needed per year to keep the highway network in a state of good repair

Soft-Cost Assumptions:

- Soft costs include \$51M in backlog. Includes project related soft costs (Direct Soft Costs) and non-project related soft costs (Indirect Costs)
- Percentage of Soft Costs to overall costs varies between 11% and 20%, with a peak in FY20 and then stabilization around 17%

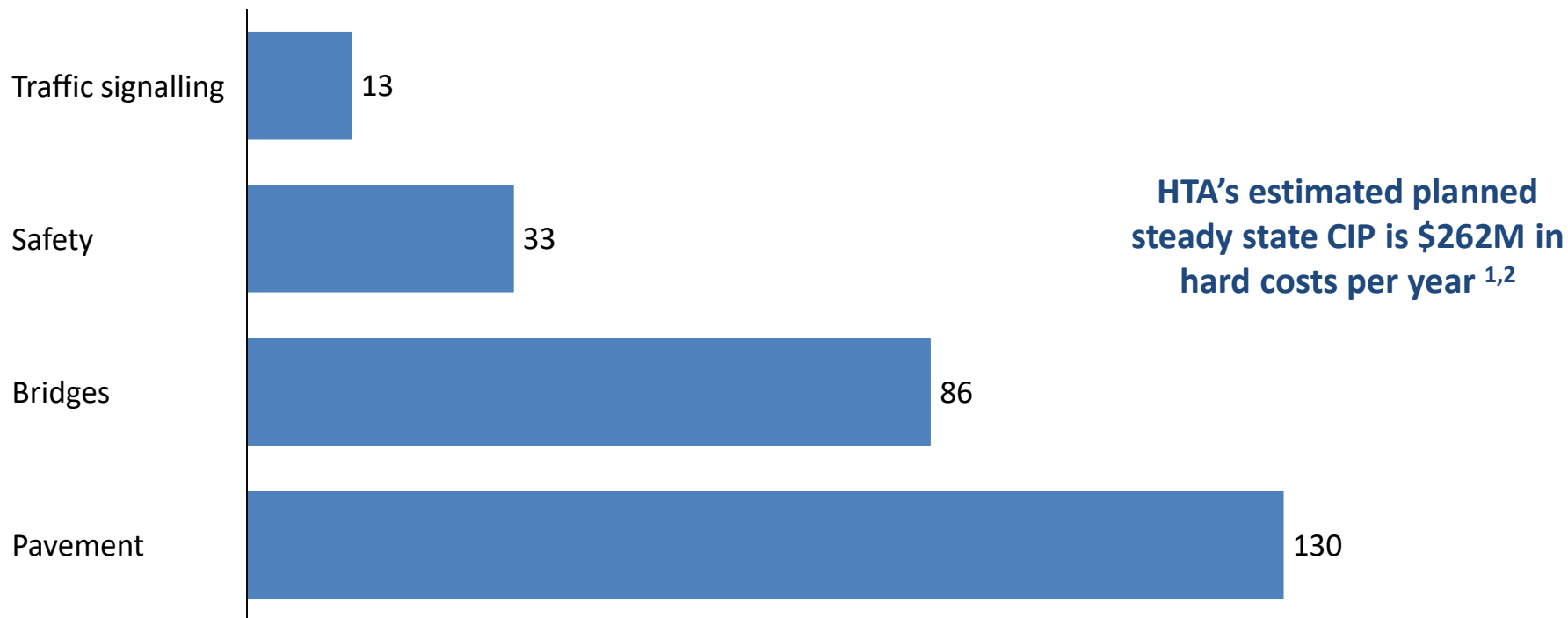
¹ Some of FY21's total construction spend was also developed with inputs from the CIP

* Includes both construction and soft costs but does NOT include CIP for Transit Asset

Steady-state CIP to maintain the system in a state of good repair

HTA developed a long-term, steady-state CIP for highway infrastructure. To keep the highway system in a state of good repair, it is critical that HTA receives full federal funds. HTA used available data on asset condition, lifecycle, and historical costs to develop The Plan. Following its initial analysis, HTA hired an outside engineering consultant to conduct a validation the steady-state CIP. After integrating the results of the external study, HTA estimates a steady-state CIP of ~\$262M per year.

Steady State Expenses By Type of Work, \$M



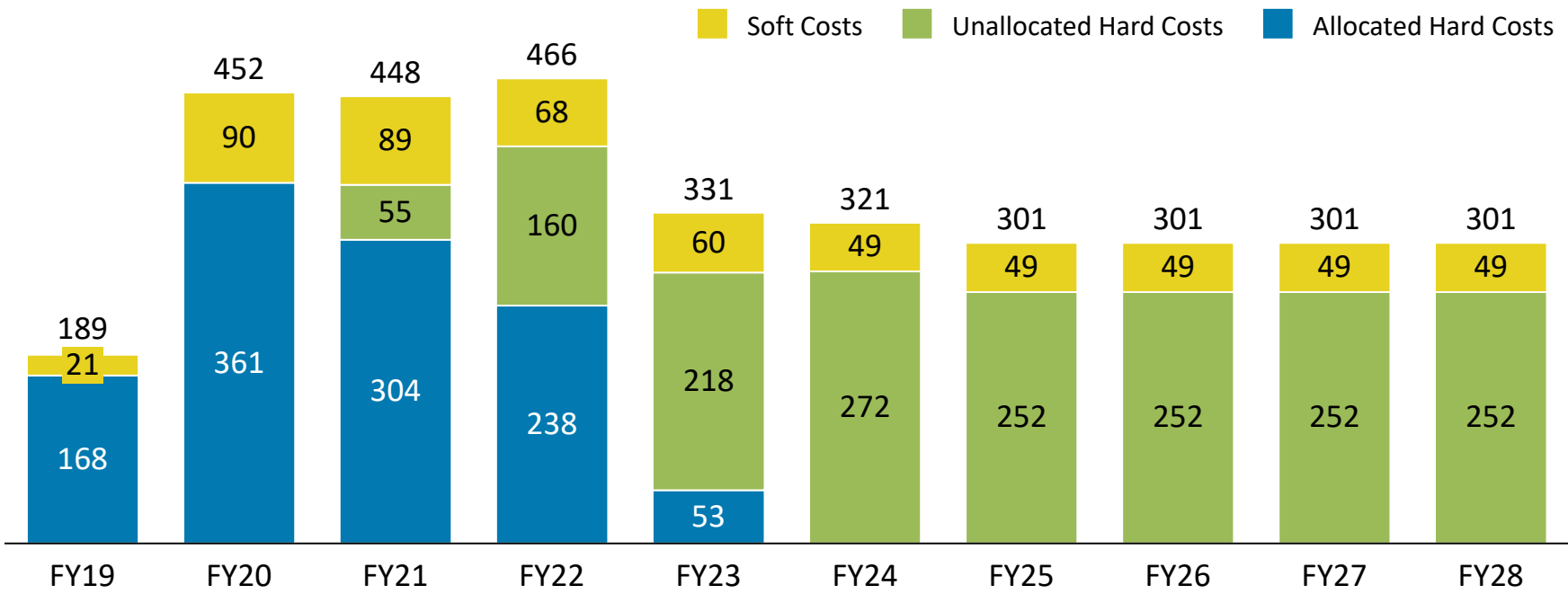
¹ Estimated for long run based on latest available data,, subject to adjustments based on prioritization and funding availability. Includes both hard and soft costs and does not include transit
² Based on 3rd party analysis of annual investments required to maintain HTA's highway network in a state of good repair

SOURCE: HTA 2019-2028 CIP validation, CMA Architects and Engineers LLS

CIP Disbursement Forecast for Revised Fiscal Plan period and beyond

- Disbursements for projects in the pipeline are forecast through FY23 include projects already in construction and projects in the bid pipeline
- Disbursements to pipeline projects peak in FY20 at approximately \$346 million and decreases thereafter as pipeline projects are completed, leaving unallocated funding for future year state of good repair
- Prioritization of future year projects with currently unallocated funding will be conducted based on goals of HTA, focused initially on safety and maintaining a state of good repair for the existing system

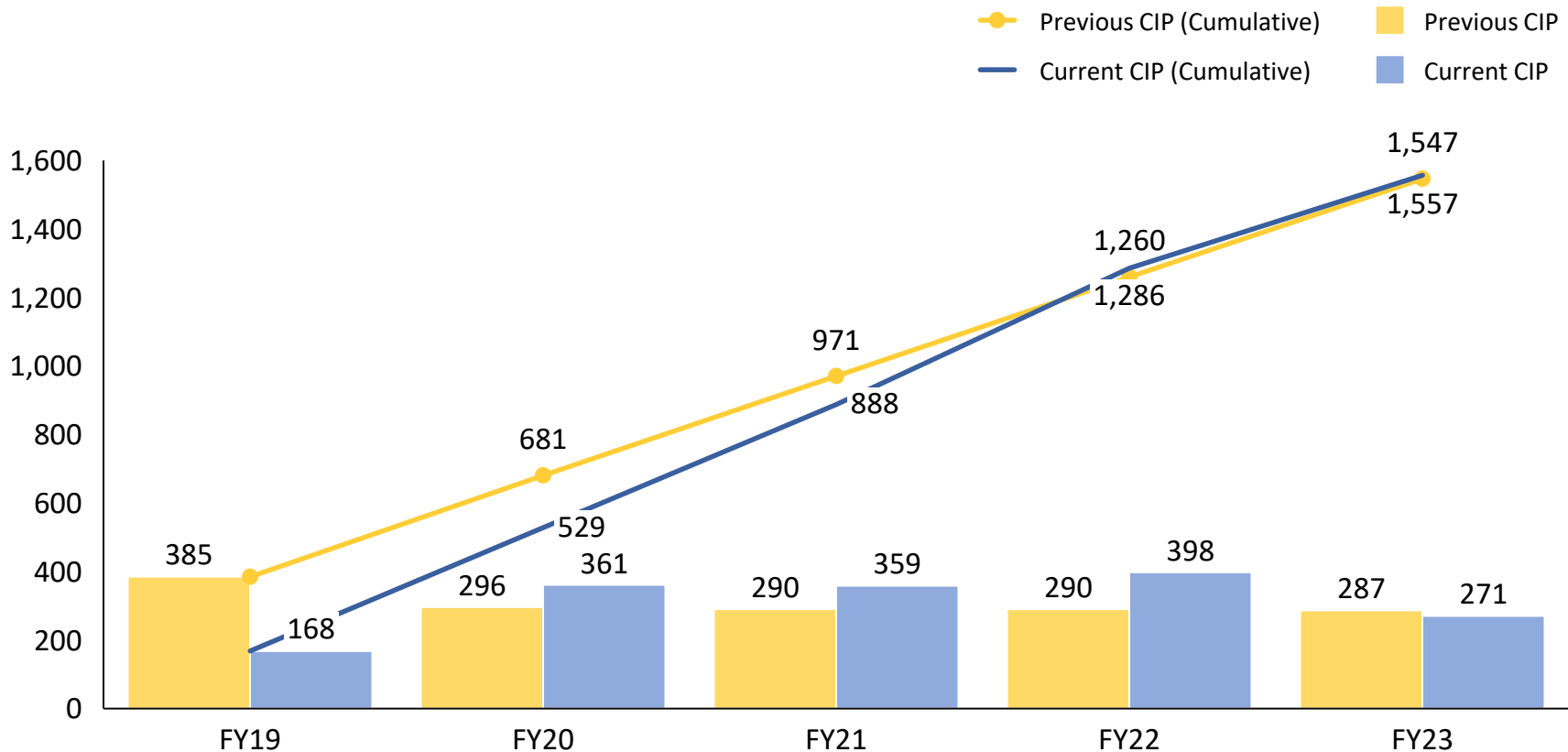
Projected CIP disbursements, FY19-28, \$M

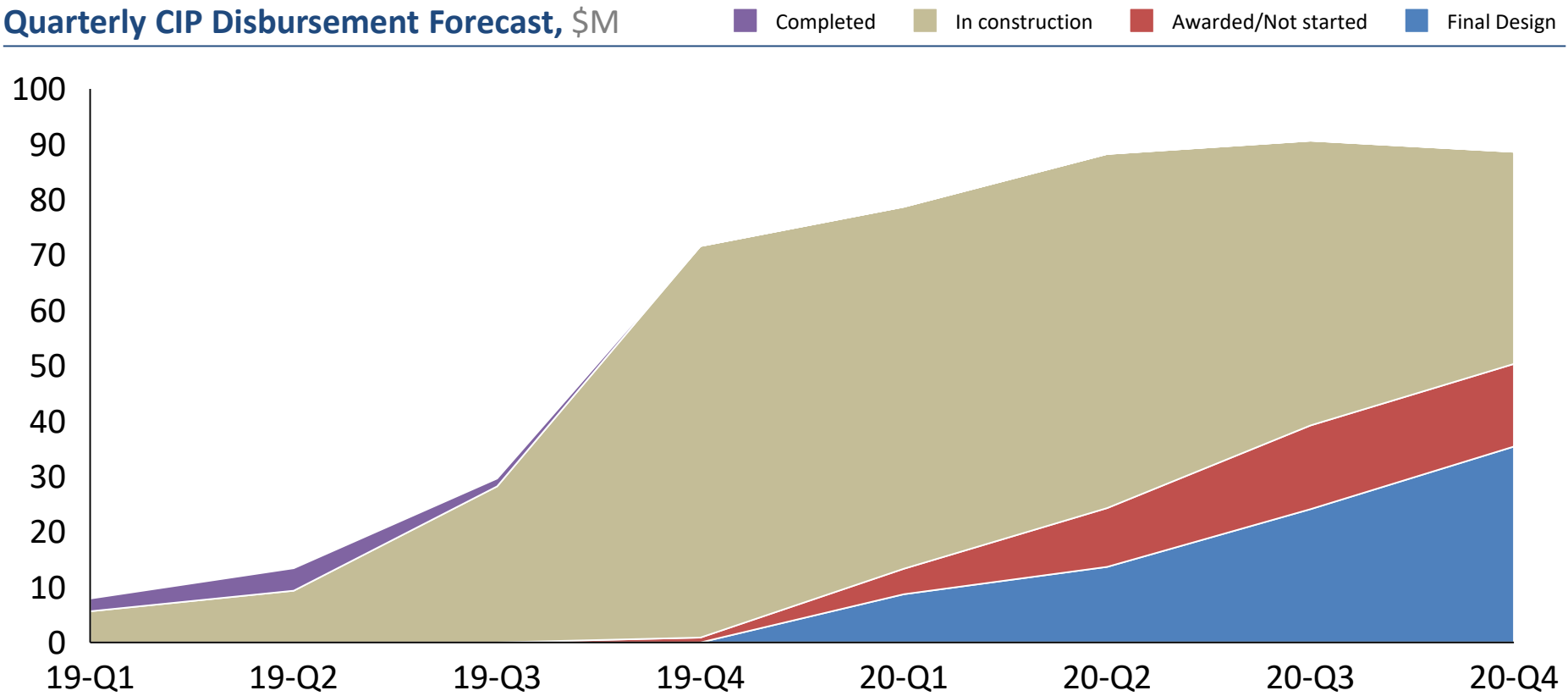


Current Disbursement Projections Relative to Previous Fiscal Plan

The distribution of HTA’s hard costs have changed significantly in FY19 compared to the June 2018 Certified Fiscal Plan. The June 2018 Certified Fiscal Plan included high level delay estimates to provide an initial assessment of Hurricane Maria’s impact. The comparison of hard cost spending distribution below highlights FY19 lower in the Revised Fiscal Plan, while **cumulative spending begins to converge again starting in FY20 and approximately equals that of the previous fiscal plan by FY23.**

Hard Cost Disbursements, \$M





Key takeaways

- HTA plans an aggressive forthcoming construction schedule, with sharp increases of projects entering construction
- Projects will enter the award and final design phase beginning in FY20 to sustain the high levels of project activity in future years

HTA is formalizing a project prioritization framework to ensure projects are appropriately programmed to serve the long-term benefit of the people of Puerto Rico

Draft prioritization approach for unprogrammed project funds

Decision Criteria	Long Range Transportation Plan (LRTP) Goal	Weight	Corresponding Objectives
Achieve a state of good repair	System Performance	30	<ul style="list-style-type: none"> Improve/maintain condition of capital assets
Improve performance of most critical corridors	System Performance; Economic Vitality; Mobility and Accessibility	25	<ul style="list-style-type: none"> Improve intersection performance, system bottlenecks, and transit Increase operational capacity in a cost effective manner Improve performance of freight and high travel corridors Prioritize the completion of projects which connect to ports and economic centers, and complete the island's strategic highway network
Resiliency, safety, and emergency response	System Performance; Environmental Sustainability	20	<ul style="list-style-type: none"> Improve safety, resiliency, and emergency response Improve resiliency and emergency response Reduce reliance on motorized travel, promote energy efficiency, and incorporate "reduce, reuse, recycle", practices in delivering infrastructure
Promote alternative modes of travel	Environmental sustainability; Mobility and Accessibility	15	<ul style="list-style-type: none"> Invest in redevelopment of urban centers to reduce need for motorized travel Improve coverage, capacity, and service of alternative modes of travel Improve modal connectivity (first mile/last mile) Improve coverage, capacity, and service of alternative modes of travel
Ensure cost effectiveness	Mobility and Accessibility	10	<ul style="list-style-type: none"> Cost effectiveness assuming mobility benefits Provide mobility for transportation-disadvantaged populations

- The Project Prioritization approach applies a set of weighted decision criteria that define desired project goals. These desired goals prioritize safety, system performance, and extending the useful life of transportation assets
- The framework further utilizes specific metrics for bridges and pavement that analyze condition of these assets, allowing HTA capex planning teams to determine asset condition and prioritize projects that provide the most value for money
- The new data-driven approach is inclusive of local input and formalizes a process that was driven by the same motives, but lacked the focus on data and analysis that will define the path forward
- Resulting project prioritization will be reviewed and approved by Executive Management to ensure proper strategic fit

The prioritization framework will be effective in FY20 planning and FY21 disbursements

HTA has identified internal and external constraints to delivery, which will be mitigated with targeted strategies

NON-EXHAUSTIVE

Delivery constraints

Market constraints

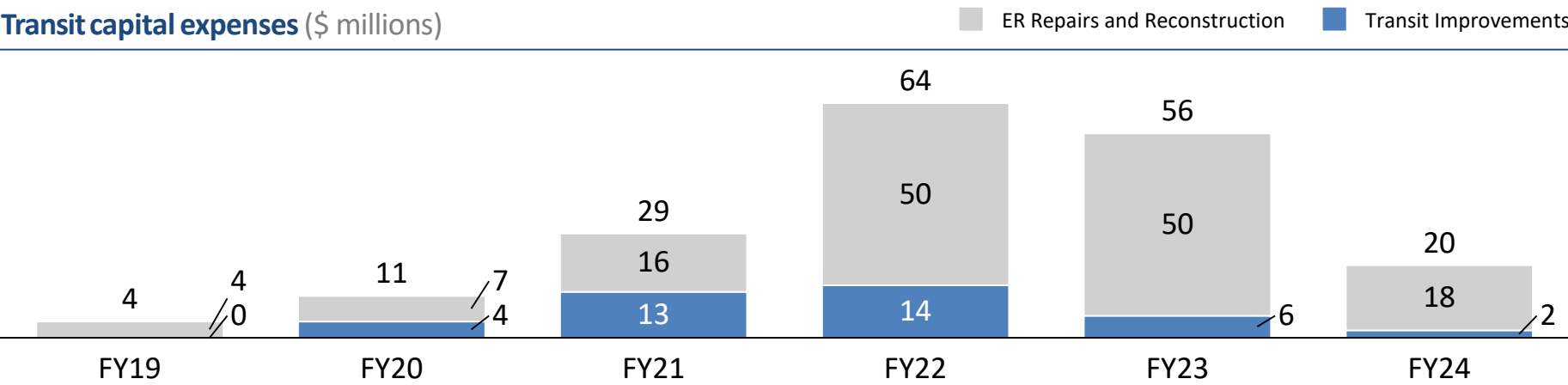
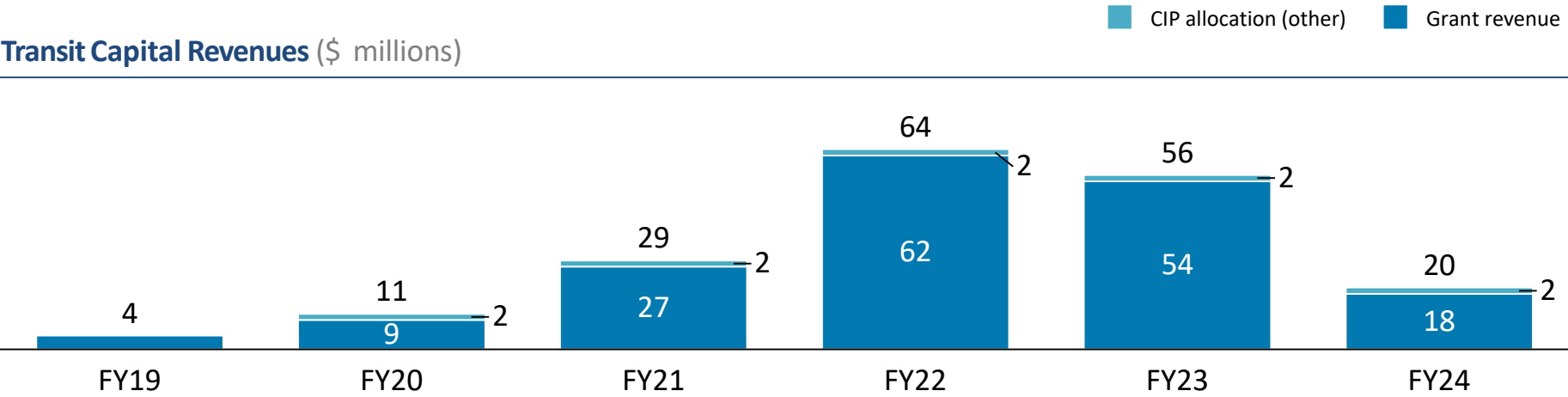
- **Labor shortages:** The construction sector faces challenges in recruiting the additional workforce required to support the expected increase in activity
- **Inflation:** HTA has concerns that ambitious capital improvements projected over the next six years may be more expensive, by primarily labor-driven inflationary pressures

Internal capacity

- **Capacity:** HTA aims to transform into an outsourced contract manager that will provide flexibility to optimize resources to achieve future CIP and enhance functions and services to meet best practices
- **Processes:** Existing processes are largely manual and time consuming e.g., >\$400M in available funding is not deployed due to delayed processes for project advancement, project completion and provider payments

Mitigation strategies

- **Workforce development:** Build partnerships, develop incentives and conduct skills boot camps to attract and onboard new construction workers
 - **Payment processing enhancement:** improve the liquidity position and financial condition of vendors
 - **Qualification and bidding process improvement:** facilitate vendor participation and ability to respond
 - **Prioritization:** Prioritize project to be bid in the next 18 months using revised prioritization approach
 - **Project monitoring:** Active tracking of actual bids to identify potential constraints
-
- **Capability building:** Launch training programs to develop core capabilities (e.g., procurement, contract management, construction inspection) and inject new talent into the org (e.g., Bid and Estimate Office)
 - **Partnerships:** Leverage external resources (e.g., EFL, PRIFAS) to support project delivery activities
 - **Project management systems:** Implement program management information system to track and monitor project-level disbursements against plan
 - **Public project dashboard:** Reporting on projects in progress and in pipeline across all program types for greater public transparency and enabling potential bidders to plan efficiently



Key Assumptions: Transit CIP has been updated to reflect the loss of an estimated \$90M in insurance revenues due to the insolvency of the TU insurance provider. Includes both construction hard and soft costs. HTA estimates soft costs for emergency funds including planning, design, environmental, etc. for each ER project to equal 20% of total expenditures, and of OCC and TU AFCS upgrades to be 5% for procurement and oversight, all reimbursable within FTA grant funding levels.

Infrastructure Agenda: Discretionary Funding for Strategic Projects

- Former P3 projects, including PR-5 and PR-22 extension are now part of the CDBG-DR efforts since revenue studies indicated that these had lower potential alignment for traditional P3
 - Puerto Rico was recently awarded \$1.5B in relief funds through The Department of Housing and Urban Development’s Community Development Block Grant-Disaster Relief (CDBG-DR) Program, administrated locally by the Puerto Rico Department of Housing
 - HTA submitted an initial application for these funds, and will submit a revised list of 12 strategic projects to the Puerto Rico Department of Housing for considering of funding under the CDBG-DR, totaling \$456M
 - These projects are potentially eligible for funding under CDBG-DR because they are shovel ready within the next 24 months, and they are important to disaster recovery and improving economic vitality in their respective regions
 - Listed below are 3 important projects from the list submitted to the PR Department of Housing that illustrate the types of projects HTA is focused on developing
- HTA will further explore executing projects under a P3 model as is needed, including identifying additional funding that will allow HTA to provide adequate gap financing and facilitate the development of P3s

	Project Cost	Key Benefits
1 PR-2 Expressway Conversion, Ponce-Mayagüez	\$115M	<ul style="list-style-type: none"> • Provides expressway access to southern and western regions of the island, reducing travel times, improving mobility, and improving emergency response • Improves economic connections between the Southern and Western metropolitan anchors of the island, Ponce and Mayagüez
2 PR-158 Connector, Phase I and II, from PR-52 to PR-1, Cayey	\$18.3M	<ul style="list-style-type: none"> • Project would promote the economic growth of the municipality of Cayey • This connector would improve mobility for communities, businesses, and residents between existing PR-52 access at PR-184 and PR-7715
3 Cidra Connector, from Industrial Avenue to PR-184	\$32.3M	<ul style="list-style-type: none"> • Project would provide a new road that facilitates access to Cidra, relieving pressure on a road that residents claim has safety issues • Municipalities of Aibonito, Cayey, Comerio, and Barranquitas will benefit from improved cargo movement

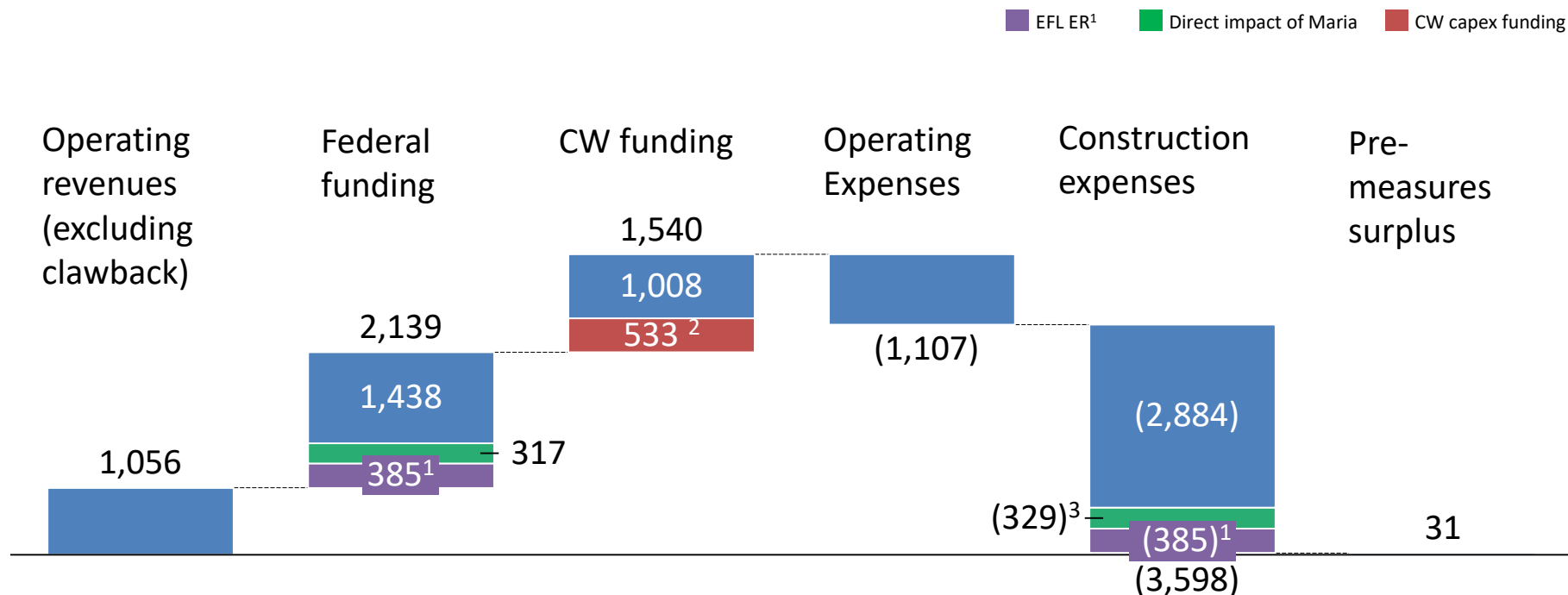
Note: Numbers revised as per Northwestern Corridor: Desirability and Convenience Final Report, April 2016. Source: STIP 2017-2020; HTA Management Assessment

IV. CURRENT SITUATION WITH BASELINE FINANCIAL PROJECTIONS (WITHOUT FISCAL MEASURES)

HTA's projected fiscal situation without fiscal measures: Summary

HTA's total financial surplus over the six years, without considering fiscal plan measures, is \$31M

Total financial gap without fiscal measures, FY19-24, \$M



¹ \$385M in Emergency Repairs outsourced to Eastern Federal Lands (not in HTA's books)

² Includes \$160M in FY18 State Capex Funds rolled over to FY19, and \$79.5M in Abriendo Caminos Phase 1 funds received in FY19

³ Includes \$8M in local match for FEMA programs and \$4M in local funding needs for Hurricane Loss Assessment

HTA's projected fiscal situation without considering fiscal measures: Detail (1/2)

\$ in thousands	2018-19 P	2019-20 P	2020-21 P	2021-22 P	2022-23 P	2023-24 P	6 YR Total FY19-FY24
Toll fares	133,861	136,602	136,001	136,206	136,305	137,054	816,030
Gasoline Tax	172,746	175,353	173,692	173,953	174,079	175,036	1,044,858
Diesel Tax	21,196	21,196	21,196	21,196	21,196	21,196	127,175
Petroleum Products Tax	214,522	214,522	214,522	214,522	214,522	214,522	1,287,134
Cigarettes taxes	19,992	19,992	19,992	19,992	19,992	19,992	119,952
Motor Vehicle License Fees	21,904	22,234	22,024	22,057	22,073	22,194	132,486
Act 30 — Licenses Fees Transferred to Act	128,924	130,598	129,531	129,699	129,780	130,394	778,926
Transit Revenues	6,661	6,761	6,697	6,707	6,712	6,749	40,289
Electronic Toll Fines	12,020	10,326	27,063	29,673	30,259	30,459	139,800
Other income	9,907	10,057	9,961	9,976	9,984	10,039	59,924
Operating Revenue	741,734	747,643	760,680	763,981	764,902	767,635	4,546,574
FHWA Funds	117,406	251,480	271,067	234,612	131,624	136,500	1,142,690
State Funds Earmarked for CapEx (Present year)	82,073	67,334	59,067	53,020	53,761	53,761	369,017
State Funds Earmarked for CapEx (Prior year obligations)	3,107	160,805	-	-	-	-	163,913
Federal Emergency Revenues	63,718	88,394	41,692	29,301	18,347	-	241,452
Transit Funds	24,446	29,464	46,615	82,369	74,055	37,895	294,846
Hurricane Loss Assessment - Insurance and FEMA Revenue	54,004	21,111	-	-	-	-	75,115
Capital Contribution	344,755	618,588	418,442	399,303	277,788	228,157	2,287,032
Total Revenues After Federal Fund Transfers	1,086,489	1,366,231	1,179,122	1,163,283	1,042,690	995,792	6,833,606
Right of Way	(3,300)	(3,300)	(3,300)	(3,300)	(3,300)	(3,300)	(19,800)
State Construction not from Capex	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	(60,000)
Salaries and related benefits	(46,511)	(39,959)	(38,121)	(37,308)	(36,621)	(35,850)	(234,370)
PayGo Retirement Impact	(13,327)	(14,276)	(14,276)	(14,276)	(14,276)	(14,276)	(84,706)
Litigation Reserve	(8,516)	(8,516)	(8,516)	(8,516)	(8,516)	(8,516)	(51,096)
Right of Way Payments	(13,736)	(16,403)	(5,256)	(854)	-	-	(36,250)
Other program expenses	(1,419)	(1,071)	(1,073)	(1,075)	(1,077)	(1,079)	(6,795)
FHWA Construction Spend Projects	(107,182)	(228,943)	(249,751)	(220,001)	(115,074)	(122,450)	(1,043,401)

HTA's projected fiscal situation without considering fiscal measures: Detail (2/2)

\$ in thousands	2018-19 P	2019-20 P	2020-21 P	2021-22 P	2022-23 P	2023-24 P	6 YR Total FY19-FY24
Non-Federal Construction Projects	(60,904)	(132,285)	(109,247)	(177,832)	(156,156)	(150,044)	(786,467)
FHWA Construction Soft Costs	(10,224)	(22,537)	(21,316)	(14,611)	(16,550)	(14,050)	(99,288)
Non-Federal Construction Soft Costs	(10,656)	(67,755)	(67,483)	(53,184)	(43,396)	(34,681)	(277,156)
Federal Emergency Repair Program	(63,718)	(88,394)	(41,692)	(29,301)	(18,347)	-	(241,452)
FEMA Match for Emergency Programs	-	(820)	(4,000)	(3,180)	-	-	(8,000)
Transit CIP	(4,446)	(11,464)	(28,615)	(64,369)	(56,055)	(19,895)	(184,846)
Hurricane Loss Assessment - Local Funding Needs	(3,104)	(1,214)	-	-	-	-	(4,318)
Hurricane Loss Assessment - Insurance / FEMA Covered	(54,004)	(21,111)	-	-	-	-	(75,115)
Total Construction	(411,049)	(668,048)	(602,648)	(637,807)	(479,368)	(414,141)	(3,213,061)
Salaries and related benefits	(39,671)	(30,386)	(30,384)	(29,822)	(29,196)	(28,782)	(188,241)
PayGo Retirement Impact	(4,355)	(4,664)	(4,664)	(4,664)	(4,664)	(4,664)	(27,677)
Toll highways administration and maintenance	(45,070)	(48,258)	(41,112)	(41,467)	(42,323)	(43,179)	(261,410)
Train operating and maintenance costs	(67,679)	(67,198)	(69,275)	(68,981)	(71,864)	(70,701)	(415,697)
Integrated transportation system	(8,892)	(9,070)	(9,251)	(9,436)	(9,625)	(9,818)	(56,092)
Other	(39,876)	(39,836)	(24,392)	(21,376)	(19,098)	(12,985)	(157,563)
Total operating expenses	(205,542)	(199,412)	(179,079)	(175,748)	(176,771)	(170,129)	(1,106,680)
Total expenses	(616,590)	(867,460)	(781,727)	(813,555)	(656,138)	(584,270)	(4,319,741)
Total Fin. Gap Pre—Measures before Rev Retention & Gov. Funding	469,898	498,771	397,395	349,728	386,551	411,521	2,513,865
Retained Revenues to Central Government	(579,284)	(583,896)	(580,957)	(581,418)	(581,642)	(583,334)	(3,490,531)
Total Fin. Gap Pre—measures post—Rev Retention & pre—Gov. Funding	(109,386)	(85,125)	(183,561)	(231,690)	(195,091)	(171,813)	(976,666)
Transfer from Government of PR	97,300	-	222,400	238,000	224,900	224,900	1,007,500
Total Fin. Surplus Pre-Measures after Rev Retention & Gov. Funding	(12,086)	(85,125)	38,839	6,310	29,809	53,087	30,834
Eastern Federal Lands Expenditures On Behalf Of HTA (not on HTA's books)	(1,600)	(26,450)	(75,300)	(105,500)	(104,000)	(72,000)	(384,850)
Combined Construction Expenditures	(412,649)	(694,498)	(677,948)	(743,307)	(583,368)	(486,141)	(3,597,911)
Combined Total Expenditures	(618,190)	(893,910)	(857,027)	(919,055)	(760,138)	(656,270)	(4,704,591)

HTA's projected fiscal position, pre-measures, Revenue snapshot

HTA projects total revenue over the six years of \$4.5B, including operating revenue of \$1.1B and tax and fee 'retained' revenue of \$3.5B. The 'retained revenue' is subject to clawback by the Commonwealth and will therefore not be remitted to HTA.

Revenue							
\$ in millions	FY19	FY20	FY21	FY22	FY23	FY24	FY19-24 Total
Toll fares [A]	134	137	136	136	136	137	816
Transit Revenues [A]	7	7	7	7	7	7	40
Electronic Toll Fines [B]	12	10	27	30	30	30	140
Other income [A]	10	10	10	10	10	10	60
Operating Revenue	162	164	180	183	183	184	1,056
Gasoline Tax [C]	173	175	174	174	174	175	1,045
Diesel Tax [C]	21	21	21	21	21	21	127
Petroleum Products Tax [D]	215	215	215	215	215	215	1,287
Cigarettes taxes [E]	20	20	20	20	20	20	120
Motor Vehicle License Fees [F]	22	22	22	22	22	22	132
Act 30 - Licenses Fees Transferred to Act [F]	129	131	130	130	130	130	779
Tax and Fee Revenue	579	584	581	581	582	583	3,491
Total Revenue	742	748	761	764	765	768	4,547

- A. Toll, transit, and other income revenues were estimated using FY18 and part of FY19 toll revenues and then increased / decreased each year based on the Commonwealth's Real GNP projections as of March 2018. Toll fares consists of revenues derived from (i) Toll fares, (ii) Toll optimization, (iii) Viaduct and Dynamic Tolling Lane revenues. Transit revenues include FTA funding for operations of \$20 million per year
- B. Electronic Toll fines projected based on actuals and updated toll fine
- C. Projected based on actuals and Puerto Rico real GNP going forward
- D. Applies a 10% year-over-year increase to monthly petroleum tax collections (volume-based) from FY17 for 2H FY18; AFI * HTA distributions of these revenues split based on FY17 amounts. FY19 onwards projected to remain consistent with FY18 revenue
- E. Based on run-rate, excluding non-recurring revenues from extraordinary promotions; year-over-year growth in cigarette mainly driven by increase in tobacco taxes in May 2017 (Act 26-2017). FY19 onwards grown at PR population and inflation
- F. Considers actuals as a baseline for projections grown in line with PR population growth rate.

Key Base Case Scenario Assumptions – Operating Revenue

Operating Revenue

- Toll revenues were estimated using FY19 actual toll revenues and toll transactions and then increased / decreased each year based on the Commonwealth's Real GNP projections in the current Commonwealth Fiscal Plan. The baseline does not include any plan to increase toll rates (shown separately as a fiscal measure).
- Toll Fine Revenue is based on toll operations-related violations, based on a \$15 fine as revised by ACT 220 of 2018. FY19 principally includes toll fines collected through September 2018 and is impacted by the toll fine forgiveness legislation passed in September 2018. HTA is undertaking efforts to improve Toll Fine collections and is expecting revenues to begin increasing in FY20.
- Transit Revenues are composed of Tren Urbano and Metrobus income and are estimated at ~\$9.3 million. For FY19 through FY24, this line item varies with Commonwealth's Real GNP assumptions.
- Other Income for FY18 is estimated at \$4.6M, of which over 80% consists of income from rent and lease, Import Levy Tax fees and income improvements. For FY19 through FY23, this line item varies with Commonwealth's Real GNP assumptions as of March 2018.

HTA's projected fiscal position, pre-measures, CIP snapshot

Total CIP expenses are \$2.7billion and total revenues are \$2.2 billion over the six-year period (excluding EFL amounts)

Capital Expenses

\$ in millions	FY19	FY20	FY21	FY22	FY23	FY24	FY19-24 Total
FHWA Funds [A]	117	251	271	235	132	137	1,143
State Funds Earmarked for CapEx (present year) [B]	82	67	59	53	54	54	369
State Funds Earmarked for CapEx (prior year obligation) [B]	3	161	-	-	-	-	164
Federal Emergency Revenues [C]	64	88	42	29	18	-	241
Transit funds [D]	24	29	47	82	74	38	295
Total Revenues	291	597	418	399	278	228	2,212
Eastern Federal Lands Revenues On Behalf of HTA (not on HTA's books)	2	26	75	106	104	72	385
Total Capital Inflows with EFL	292	624	494	505	382	300	2,597
Right of Way	(3)	(3)	(3)	(3)	(3)	(3)	(20)
State Construction not from Capex [E]	(10)	(10)	(10)	(10)	(10)	(10)	(60)
FHWA Construction Spend Project [F]	(107)	(229)	(250)	(220)	(115)	(122)	(1,043)
Non-Federal Construction Projects [F]	(61)	(132)	(109)	(178)	(156)	(150)	(786)
FHWA Construction Soft Costs [F]	(10)	(23)	(21)	(15)	(17)	(14)	(99)
Non-Federal Construction Soft Costs [F]	(11)	(68)	(67)	(53)	(43)	(35)	(277)
Federal Emergency Repair Program [G]	(64)	(88)	(42)	(29)	(18)	-	(241)
FEMA Match for Emergency Program [G]	-	(1)	(4)	(3)	-	-	(8)
Transit CIP	(4)	(11)	(29)	(64)	(56)	(20)	(185)
Total Expenses	(270)	(565)	(535)	(576)	(419)	(354)	(2,720)
Net Capital Expenses	20	32	(117)	(176)	(141)	(126)	(508)
Eastern Federal Lands Expenditures On Behalf of HTA (not on HTA's books)	(2)	(26)	(75)	(106)	(104)	(72)	(385)
Total Capital Outflows with EFL	(272)	(592)	(611)	(681)	(523)	(426)	(3,105)

A. HTA receives \$138.8M (net of penalties) in federal funds per year. Projections are based on obligated Federal Funds and exceeds 138.8M in some years as a result of backlogged projects. Projection assumes HTA receives its historical allocation from FHWA of \$138.8M.

B. HTA receives an annual appropriation from the Commonwealth for capital expenses.

C. Assumed that FHWA match of emergency repair spending was 100% per the Bipartisan Budget Act of 2018, 115th Cong., 2d Sess. (2018). Page 88; line 8.

D. Provided by HTA leadership. Includes \$120M of FTA grants which are dedicated to operating expenditures

E. Earmarked funding for annual local construction needs.

F. Federal and local construction costs for FY19-22 were developed using project specific costs provided by HTA for active projects, STIP projects, Federal earmark projects, and projected spend on dynamic toll lanes. FY23-24 were developed using long-term CIP projections produced by HTA and its consultants and projects the total spend needed by year to keep the highway network in a state of good repair.

G. Developed using current damage estimates.

Key Base Case Scenario Assumptions – CIP (1 of 2)

Capital expenses

- Federal and local Capital expenses for FY19-21 were developed using project specific costs for active projects, CIP projects, Federal earmark projects, and additional locally funded projects
 - Unexpended obligated amounts from FY18 projected disbursement on Construction Local line item were rescheduled
- FY21-24 capital expenses were developed using long-term CIP projections produced by HTA and validated by an external engineering firm and projects the total spend needed by year to keep the highway network in a state of good repair
 - FY21 is the first year where long-term CIP costs are incurred. Only 20% of steady-state FHWA long-term CIP costs can be incurred in the first year due to additional standard delay in obligating federal funds. The remaining portion of costs in this year are contributed from STIP-programmed and current active projects.
- HTA is maximizing available FHWA funds for construction. Granting share of funds used for soft costs.

Application of Inflation Factors

- Preliminary inflation factors ranging from 10% to 20% had been applied to capital projects in the bid pipeline. In April, new factors resulting from a construction market analysis conducted by HTA were generated and applied to the bid pipeline to generate refined projected costs based on project profiles (types of materials, duration, labor intensity, etc.).
- Revised annual inflation factors were converted into a monthly index and applied to project cost over their expected duration. The result of this refined analysis was an inflated cost of all projects in the bid pipeline of 20.4%.

Soft Costs

- Maximizing federal funds for construction, among others, resulted in \$51.6M of state funds available for soft costs in the 6-year period covered in the FP. The soft costs estimate included project related costs, as well as soft cost associated to the implementation of several FP initiatives.

Key Base Case Scenario Assumptions – CIP (2 of 2)

Funding

- HTA receives \$138.8M (net of penalties) in federal funds per year. Total FHWA funds for FY18-21 is based on obligated Federal Funds and exceeds 138.8 M in some years as a result of backlogged projects. FY22 onwards assumes HTA receives its historical allocation from FHWA of \$138.8M, subject to Congressional Allocation.
- HTA had previously received a capex allocation from central government of \$75M which is currently allocated for FY18. HTA is also set to receive additional Capex funds of \$399M. This amount will fund emergency reconstruction as well as allow HTA to meet its capital requirements to maintain a state of good repair and fund additional strategic projects.

Emergency Repair

- Assumed that FHWA match of emergency repair spending was 100% per the Bipartisan Budget Act of 2018, 115th Cong., 2d Sess. (2018). Page. 88; line 8.
Developed using current damage estimates prepared as of February 19th, 2018. Local emergency repair costs include the local share of FEMA emergency repair.

Transit CIP

- Developed on a line item basis by the Transit Team. Includes costs and revenues associated with reconstruction and repair following Hurricane Maria.
- Of the \$20M received from the FTA each year, \$5M has been allocated to the transit CIP in FY21 onwards whereas the remaining \$15M has been allocated to subsidize transit operating expenses

Implementation Risks

- Existing conditions in the construction market may affect the implementation of the Capital program as envisioned by HTA. HTA will closely monitor market response and will provide prompt and adequate notice of how such market conditions are affecting the CIP and what measures need to be taken in response thereto to minimize the effects, which may include adjusting the CIP.

HTA's projected fiscal position, pre-measures, Operating Expenses Snapshot

Total opex is \$1.5 billion over six years, with almost 35 percent of the expected costs from personnel (salary/benefits, including PayGo retirement)

\$ in millions	FY19	FY20	FY21	FY22	FY23	FY24	FY19-24 Total
Salaries and related benefits [A]	(47)	(40)	(38)	(37)	(37)	(36)	(234)
PayGo [B]	(13)	(14)	(14)	(14)	(14)	(14)	(85)
Litigation Reserve	(9)	(9)	(9)	(9)	(9)	(9)	(51)
Right of Way Payments [C]	(14)	(16)	(5)	(1)	-	-	(36)
Other program expenses	(1)	(1)	(1)	(1)	(1)	(1)	(7)
Construction Support	(84)	(80)	(67)	(62)	(60)	(60)	(413)
Salaries and related benefits [A]	(40)	(30)	(30)	(30)	(29)	(29)	(188)
PayGo [B]	(4)	(5)	(5)	(5)	(5)	(5)	(28)
Toll highways administration and maintenance [E]	(45)	(48)	(41)	(41)	(42)	(43)	(261)
Train operating and maintenance costs [F]	(68)	(67)	(69)	(69)	(72)	(71)	(416)
Integrated transportation system [G]	(9)	(9)	(9)	(9)	(10)	(10)	(56)
Other operating expenses [H]	(40)	(40)	(24)	(21)	(19)	(13)	(158)
Operating Expenses	(206)	(199)	(179)	(176)	(177)	(170)	(1,107)
Total	(289)	(280)	(246)	(238)	(237)	(230)	(1,520)

- A. Salary: # of FY19 employees times their average salary. Assume salaries remain flat over period; Benefits: FY19: based on FY18 YTD. Other FY18 benefits based on share of salary and assumed flat over period. Law 70 and 211: Early Retirement based on by-person schedules. New outsourced toll highway O&M is expected to allow for further rightsizing reduction.
- B. Considers FY17 actuals as baseline and splits it into construction (93%) & non construction (7%). The construction component varies according to capital expenditure growth
- C. Based on a specific payment schedule for active cases - trails off as no expected new construction in near-term to drive ROW
- D. FY19 vehicle lease and plotters: based on expected payments this fiscal year; all other (rent, security and others): assumed flat with FY18 actuals
- E. FY19 Toll Operator (GILA) based on actuals with updated insurance actual costs. As of FY21 considered future outsourced O&M costs, including additional O&M costs of new RSS system
- F. Tren Urbano operating contract based on contract requirements and projected hour and mile rates (about 1% increase per year); insurance based on FY19 updated figures
- G. Bus operating estimates based on recent contract trends (2.4% per year) extended for all years of period
- H. Professional Services bottoms-up build includes FOMB consulting providers All other variables (rent, lighting, etc.) assumed constant with FY18 actuals

Key Base Case Scenario Assumptions – Operational Expenses (1/3)

Salaries and related benefits

- Salaries and related benefits consider the latest HTA roster, and each employee's costs at the average current salary. Additional benefits such as overtime, pension, social security and Medicare are calculated as a proportion of the base salary. HTA has not increased salaries in the last nine years, so no increase were assumed over this period. HTA is self-insured, and over the last two years has experienced a 0.5% CAGR in health care costs, which is assumed to extend for the remaining fiscal years.
- Law 70 Early Retirement Program went into effect prior to the Revised Fiscal Plan period, and its costs are based on the known payout schedule for the program's participants. As expected, the program costs trails off as participants age and are removed from the program. For this reason, Law 70 impact is included in the baseline.
- Law 211 Early Retirement Program went into effect at the beginning of FY18, and our baseline considers participants at their then-current costs at the time of their 6/30/17 separation (note: savings from this Law is captured and represented as a fiscal measure).
- HTA has implemented an VTP in which 334 FTEs that leads to annual recurring savings of \$15.1M and cumulative savings of \$56M from FY19-24. HTA will undergo an agency wide restructuring in line with its transformation of its operations into a project management focused agency. This process entails the evaluation of the roles and profiles of its current human resources, including but not limited to the execution of a compensation and classification analysis. This will expose the necessary adjustments required to fill the needs of the new organizational structure.

PayGo Retirement

- HTA received an invoice from the Puerto Rico Treasury Department for \$35M related to FY19. Forecasts from FY19-FY24 are projected at \$33M per year per revised estimates provided by ASR¹.

Litigation Reserve

- HTA considered litigation case-by-case breakdown for FY17 and split between construction and non-construction. Non-construction component (7%) assumed constant while construction component (93%) reflects variation in capital expenditure.

Right of Way Payments

- HTA built a by-case projection based on specific litigation cases and their expected payments. These expenses are expected to gradually decrease until reaching zero by FY22, as HTA's new construction activity reduces.

¹ Administration of Retirement Systems for Government Employees and the Judiciary

Key Base Case Scenario Assumptions – Operational Expenses (2/3)

Other program expenses

- This category consists of additional expense related to construction support. Equipment rental is the largest item within this category and is due primarily to car leases to support transportation within construction sites. This item is expected to increase to support increased construction activity in the next few years. Other remaining expenses such as building rent and security considers FY19 actuals and is expected to remain flat.

Toll highways administration and maintenance

- Electronic toll collection, the cost of HTA's toll operator third-party service provider, has been split into variable (costs driven by traffic volume), fixed (fixed costs). On FY19, HTA started the procurement process to replace and upgrade the complete toll road operation infrastructure. Estimated costs to replace existing toll road systems will require capital expenditures of \$51M throughout the Fiscal Plan period.
- HTA is responsible for maintaining 622 lane miles. Current annual expenditures are estimated at \$28M. These expenditures include a combination of internal and external resources. HTA intends to achieve operational efficiencies and improve the quality of services through the externalization of these functions (e.g., electricity, insurance). All Toll O&M line items will be included in the outsourced costs in FY21. HTA needs to comply with the FHWA MOA for toll credits, including submission of annual reports to the FHWA Division Office and notification to the FHWA Division office of its annual maintenance of effort (MOE) and toll credit accrual decision, since it has not requested to accrue toll credits since 2014.
- Vehicle maintenance and repair, which supports HTA's highway operations, assumes FY18 is consistent with FY17, and future years include small per year contractor cost escalation
- Insurance and maintenance, for HTA's highways operations, considers actual insurance policy costs for years FY18 and FY19. Insurance costs are estimated to remain steady until FY22 and then gradually decline back to FY18 levels (assuming no Maria-like events will recur).
- All other line items such as lighting, security, rent, etc. use FY17 actuals for projections for each year through FY23

Train operating and maintenance costs

- Tren Urbano's operating contract represents approx. 80% of this line item. Between FY18 and FY23, projections have been made on a detailed, per-year estimate consisting of the FY18 to FY23 contracted base compensation, price / mile, price per hour, estimated miles, estimated hours and an annual allowance in order to reach the total expected contract costs. CAGR is approx. 1% over the six years.
- Insurance and maintenance, for Tren Urbano operations, considers actual insurance policies for years FY18 and FY19. Insurance costs are estimated to remain steady until FY22 and then gradually decline back to FY18 levels.
- All other line items such as lighting, security, rent, etc. use FY17 actuals for projections for each year through FY23

Key Base Case Scenario Assumptions – Operational Expenses (3/3)

Integrated transportation system

- The bus system that flows into Tren Urbano is operated by a third-party provider and the budget information is based off on the existing operating contract. Based on the contract pricing, a CAGR of approximately 2% is expected through FY24.

Other operating expenses

- Professional services represent approximately 70% of this line item. Professional services are aligned with the CW Fiscal Plan's Title III schedule¹
- Insurance and maintenance regarding operating and overhead, considers actual insurance policies for years FY18 and FY19
- Insurance costs are estimated to remain steady until FY22 and then gradually decline back to FY18 levels
- All other line items such as lighting, security, rent, etc. use FY17 actuals for projections for each year through FY24

¹ In addition, a 10% reduction has been applied to non-Title III professional services fees of \$14M in professional service fees associated with CIP and VTP implementation costs

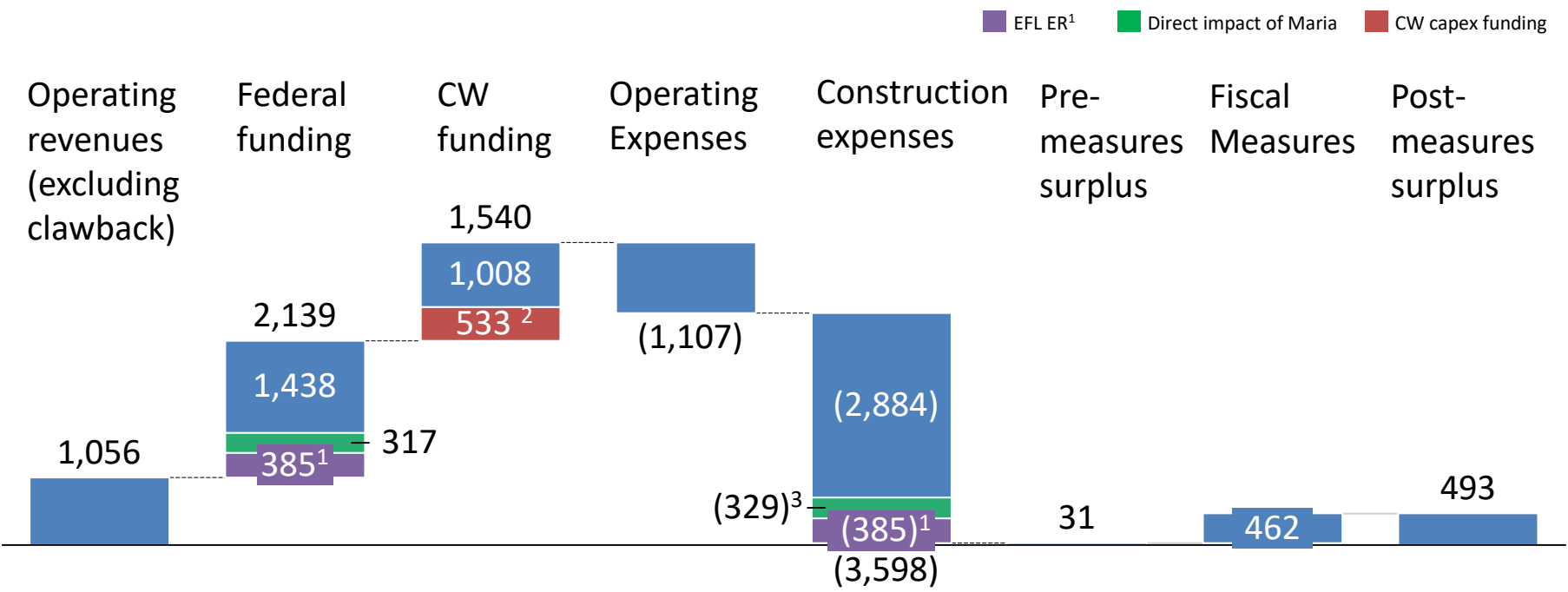
V. FISCAL MEASURES WITH FINANCIAL PROJECTIONS

1. Although the FOMB does not consider and has not considered anything in the Revised HTA Fiscal Plan as a “recommendation” pursuant to Section 205(a), to the extent that the Government of Puerto Rico or HTA considers or has considered anything in this Chapter a “recommendation” pursuant to Section 205(a), the FOMB hereby incorporates it into the Revised HTA Fiscal Plan pursuant to Section 201(b)(1)(K).
2. The Fiscal Plan forms the basis of the corresponding Certified Budget, including full implementation of all revenue and expenditure measures described for that fiscal year, and any investments described in the Fiscal Plan. The Certified Budget must include the same level of specificity as outlined by the FOMB in the budgetary process by budget line-item on sources and uses of funds by fiscal year. The Certified Budget must also provide additional detail on the types of funds used to cover expense categories (e.g., general fund, federal funds, special revenues, own revenues). Finally, the Certified Budget must include additional detail as necessary to track the impact of fiscal measure implementation (e.g., pensions, health benefits and Christmas bonus separated from Salary and related benefits, professional services fees, etc.)

HTA's projected fiscal situation with fiscal measures: Summary

HTA’s total financial gap over the six years, with fiscal plan measures, is \$493M

Total financial gap without fiscal measures, FY19-24, \$M



1 \$385M in Emergency Repairs outsourced to Eastern Federal Lands (not in HTA's books)
 2 Includes \$160M in FY18 State Capex Funds rolled over to FY19, and \$79.5M in Abriendo Caminos Phase 1 funds received in FY19
 3 Includes \$8M in local match for FEMA programs and \$4M in local funding needs for Hurricane Loss Assessment

Fiscal Plan Measures - Summary

			Fiscal impact ¹ , \$M		
Fiscal measure	Description		6 years (FY19-24)	Average/ year	Final year (FY24)
Enhance org	1 Enhance board composition	Establish an independent board of administration leaders and independent industry experts.	-2	(0)	(1)
	2 Rollout Organizational KPIs	Increase transparency around customer welfare, financial discipline and operational execution through performance measurement and tracking.		-	-
Increase revenue	3 Increase rates on existing tolls	Increase rates on existing roads only with a tiered CPI catch up	91	15	31
	4 Secure Discretionary Funding	Secure share of discretionary federal and recovery grants to offset CIP and strategic project expenditures.	76	13	24
	5 Toll optimization ³	Improve toll capture through Open Road Tolling (ORT) and improved supporting systems and processes	76	13	17
	6 Capture ancillary revenue	Increase revenue from non-toll, non-transfer sources including but not limited to advertisement revenues, real estate dispositions, and service signs.	14	2	3
Optimize expenses	7 CIP Optimization	Improved prioritization based on outcomes and project delivery to complete capital portfolio more effectively.	116	19	29
	8 Organizational Restructuring ²	Workforce transition to reduce total labor expense (payroll, benefits, and outsourcing) in line with Commonwealth wide efficiency objective.	28	7	5
	9 Pension reform	Reduce pension contributions by 10%, effective from FY21 in line with Commonwealth wide target	14	2	4
	10 Uniform health	Maintain benefits at \$125 per employee per month for employees without pre-existing conditions, and \$450 per employee per month for all other employees	14	2	3
	11 Xmas bonus elimination	Elimination of Christmas bonus in line with the Commonwealth Fiscal plan	3	0	1
	12 Contract re-bid	Pursue improved contract terms on major operating contracts in order to achieve reductions in total operating costs without reducing service.	32	11	5
	13 Congestion Management	Execute DTL and critical intersection to manage congestion and reduce travel time in high traffic zones	7	4	1
	14 Concessions	Evaluate concession opportunity for PR-52 and other roads, and P3 opportunities for Tren Urbano	-5	(1)	-
Total			462	77	132

1 Fiscal Plan Impacts are calculated in relation to current baseline, cost savings successes to-date are not included within the Fiscal Measure impact outlined above (e.g., Early Exits, VTP 1 and 2, Bus contract re-bid)

2 Combined effect of restructuring measure is \$65M in savings, this summary reflects only savings to be achieved by future efforts.

3. Increase in impact does not account for increased costs from widening the scope of the program, as those costs are captured in CapEx

HTA's projected fiscal situation with fiscal measures: Detail (1/2)

Impacted by measure¹

In \$ thousands	2018-19P	2019-20P	2020-21P	2021-22P	2022-23P	2023-24P	6 Yr Total: FY19-FY24
Toll fares, includes [3], [5], and [13]	133,701	147,814	165,362	170,342	177,201	184,902	979,322
Gasoline Tax	172,746	175,353	173,692	173,953	174,079	175,036	1,044,858
Diesel Tax	21,196	21,196	21,196	21,196	21,196	21,196	127,175
Petroleum Products Tax	214,522	214,522	214,522	214,522	214,522	214,522	1,287,134
Cigarettes taxes	19,992	19,992	19,992	19,992	19,992	19,992	119,952
Motor Vehicle License Fees	21,904	22,234	22,024	22,057	22,073	22,194	132,486
Act 30 – Licenses Fees Transferred to Act	128,924	130,598	129,531	129,699	129,780	130,394	778,926
Transit Revenues	6,661	6,761	6,697	6,707	6,712	6,749	40,289
Electronic toll Fines, includes [5]	12,020	11,014	31,394	34,601	35,273	35,489	159,793
Other income, includes [6]	10,685	11,612	12,295	13,088	13,095	13,150	73,926
Operating Revenue	742,352	761,099	796,705	806,157	813,923	823,625	4,743,861
FHWA Funds	117,406	251,480	271,067	234,612	131,624	136,500	1,142,690
Discretionary Funds, includes [4]	-	-	8,000	20,000	24,000	24,000	76,000
State Funds Earmarked for CapEx (Present year)	82,073	67,334	59,067	53,020	53,761	53,761	369,017
State Funds Earmarked for CapEx (Roll over)	3,107	160,805	-	-	-	-	163,913
Federal Emergency Revenues	63,718	88,394	41,692	29,301	18,347	-	241,452
Transit funds	24,446	29,464	46,615	82,369	74,055	37,895	294,846
Hurricane Loss Assessment – Insurance and FEMA Revenue	54,004	21,111	-	-	-	-	75,115
Capital Contribution	344,755	618,588	426,442	419,303	301,788	252,157	2,363,032
Total Revenues After Federal Fund Transfers	1,087,106	1,379,687	1,223,147	1,225,460	1,115,711	1,075,781	7,106,893
Right of Way	(3,300)	(3,300)	(3,300)	(3,300)	(3,300)	(3,300)	(19,800)
State Construction not from Capex	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	(60,000)
Salaries and related benefits, includes [8]	(46,511)	(41,903)	(30,694)	(29,881)	(29,193)	(28,422)	(206,604)
PayGo Retirement Impact, includes [9]	(13,327)	(14,276)	(12,848)	(12,848)	(12,848)	(12,848)	(78,996)
Litigation Reserve	(8,516)	(8,516)	(8,516)	(8,516)	(8,516)	(8,516)	(51,096)
Right of Way Payments	(13,736)	(16,403)	(5,256)	(854)	-	-	(36,250)

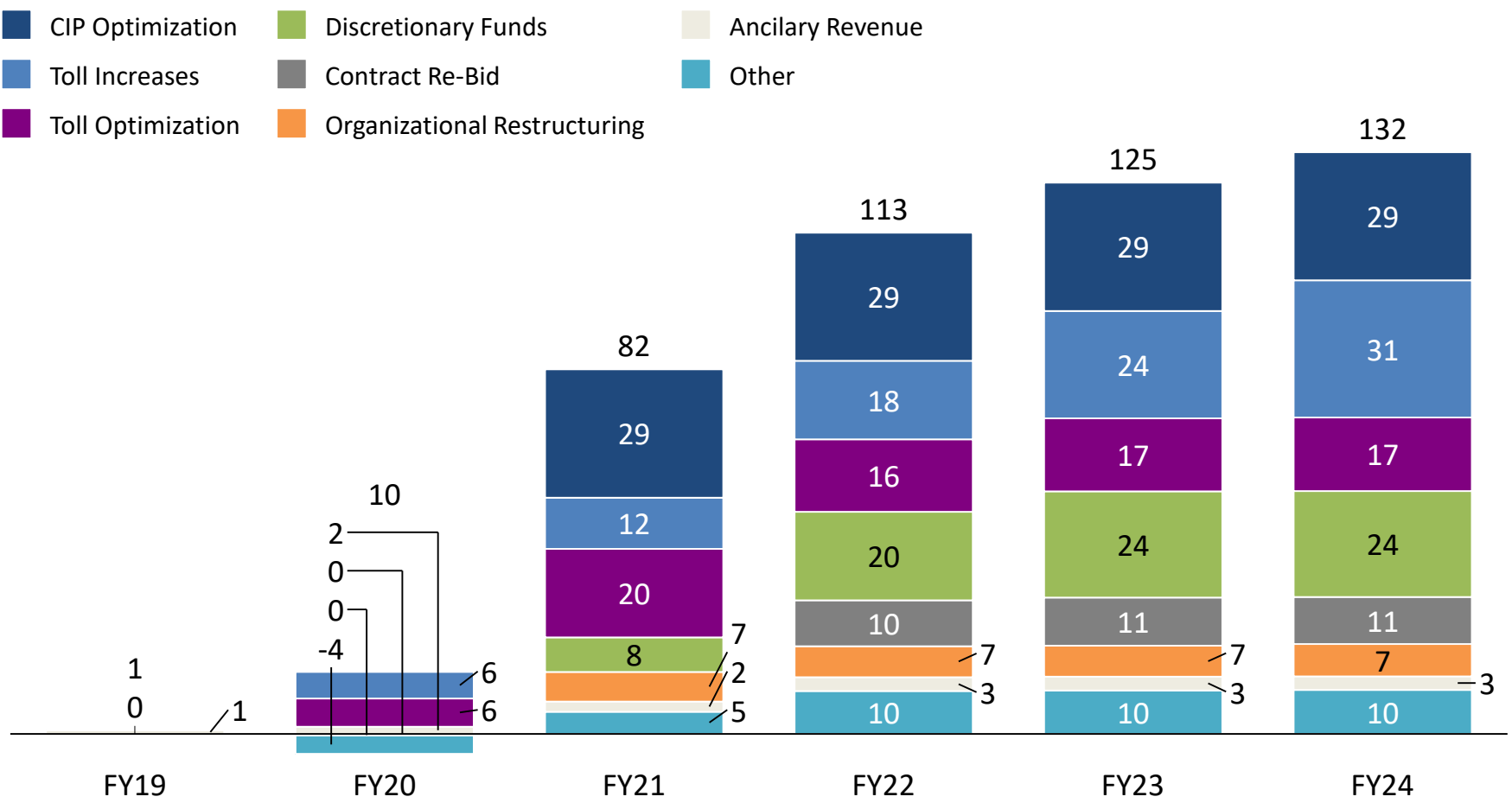
¹ Numbers included in highlighted line items refer to the numbered measures that impact these line items. Measure numbers can be found on the previous slide

Impacted by measure¹

In \$ thousands	2018-19P	2019-20P	2020-21P	2021-22P	2022-23P	2023-24P	6 Yr Total: FY18-FY23
Other program expenses, includes [8]	(1,419)	(2,149)	(2,569)	(2,383)	(2,385)	(2,190)	(13,095)
Discretionary Projects (Hard & Soft Costs), includes [4]	-	-	(8,000)	(20,000)	(24,000)	(24,000)	(76,000)
FHWA Construction Spend Projects	(107,182)	(228,943)	(249,751)	(220,001)	(115,074)	(122,450)	(1,043,401)
Non-Federal Construction Projects, includes [7]	(60,904)	(132,285)	(72,247)	(128,832)	(103,156)	(97,044)	(594,467)
FHWA Construction Soft Costs	(10,224)	(22,537)	(21,316)	(14,611)	(16,550)	(14,050)	(99,288)
Non-Federal Construction Soft Costs	(10,656)	(67,755)	(67,483)	(53,184)	(43,396)	(34,681)	(277,156)
Federal Emergency Repair Program	(63,718)	(88,394)	(41,692)	(29,301)	(18,347)	-	(241,452)
FEMA Match for Emergency Programs	-	(820)	(4,000)	(3,180)	-	-	(8,000)
Transit CIP	(4,446)	(11,464)	(28,615)	(64,369)	(56,055)	(19,895)	(184,846)
Hurricane Loss Assessment – Local Funding Needs	(3,104)	(1,214)	-	-	-	-	(4,318)
Hurricane Loss Assessment – Insurance/FEMA Covered	(54,004)	(21,111)	-	-	-	-	(75,115)
Total Construction	(411,049)	(671,069)	(566,289)	(601,260)	(442,820)	(377,397)	(3,069,883)
Salaries and related benefits, includes [8]	(39,671)	(25,528)	(23,737)	(23,175)	(22,548)	(22,135)	(156,794)
PayGo Retirement Impact, includes [9]	(4,355)	(4,664)	(4,198)	(4,198)	(4,198)	(4,198)	(25,811)
Toll highways administration and maintenance, includes [5] and [14]	(45,230)	(50,223)	(42,970)	(40,812)	(41,662)	(42,462)	(263,359)
Train operating and maintenance costs, includes [12]	(67,679)	(67,198)	(69,275)	(58,584)	(60,931)	(60,062)	(383,729)
Integrated transportation system, includes [13]	(8,892)	(9,070)	(9,251)	(10,212)	(10,426)	(10,645)	(58,496)
Other operating expenses, includes [1], [4], [8], and [13]	(39,876)	(43,750)	(27,569)	(24,242)	(21,974)	(15,744)	(173,155)
Total operating expenses	(205,702)	(200,434)	(177,000)	(161,222)	(161,738)	(155,246)	(1,061,342)
Total expenses	(616,750)	(871,504)	(743,289)	(762,482)	(604,558)	(532,643)	(4,131,226)
Total Fin. Gap Post-Measures before Rev Retention & Gov. Funding	470,356	508,184	479,859	462,977	511,153	543,139	2,975,667
Retained Revenues to Central Government	(579,284)	(583,896)	(580,957)	(581,418)	(581,642)	(583,334)	(3,490,531)
Total Fin. Gap Post-Measures Post-Rev Retention & pre-Gov. Funding	(108,928)	(75,713)	(101,098)	(118,441)	(70,489)	(40,196)	(514,864)
Transfer from Government of PR	97,300		222,400	238,000	224,900	224,900	1,007,500
Total Fin. Surplus Post-Measures after Rev Retention & Gov. Funding	(11,628)	(75,713)	121,302	119,559	154,411	184,704	492,636

¹ Numbers included in highlighted line items refer to the numbered measures that impact these line items. Measure numbers can be found on the previous slide

Fiscal Measures by initiative, \$499M in savings, FY19-FY24 in \$M



HTA will reorganize into a more effective organization to enhance governance and organizational efficiency in delivering on its goals

1. Governance & Board Recruiting

- HTA will select an executive recruiting firm by the end of FY19
- The Board of Directors will include independent directors identified by a private search firm and appointed by the governor
- Board members will have expertise in roads, infrastructure, revitalization, innovation, and private sector partnerships
- New structure attenuated from future political cycles and influence

2. Organization

- Forward-thinking lean organizational strategy with best-in-class FTE efficiency achieved through workforce transition
- Construction and O&M program internally overseen but optimized through outsourcing
- Build scalable contract management approach, which aligns resource levels with funding

3. Objective Decision-Making

- HTA will prioritize the following key design principles to create more effective governance and organization structures:
 - Deliver upon HTA mission to provide a safe and efficient transportation network
 - Move towards a contract management model to deliver excellent service at best value
 - Outcomes-based prioritization of projects based on economic impact
 - Maximize access to federal funding and, as possible, facilitate future access to capital markets
 - Incorporate streamlined processes to deliver a lean and effective organization
 - Include public policy decisions as defined and measured input into cost-benefit analyses
- HTA will institute a performance based culture in which:
 - Project and program performance are evaluated based on industry standard KPIs
 - Employees evaluated on merit, with strict position control and cost-benefit analysis requirements for new positions and promotions.

4. Legislation

- HTA has submitted new legislation which reforms the structure of DTOP to include an independent board of directors for HTA
- Delays in introducing this legislation (planned for the Fall session) have delayed implementation of this measure
- This legislation has been drafted, however, due to the potential risks this bill faces in passing the Senate, HTA has opted to identify professional board members before introducing this legislation

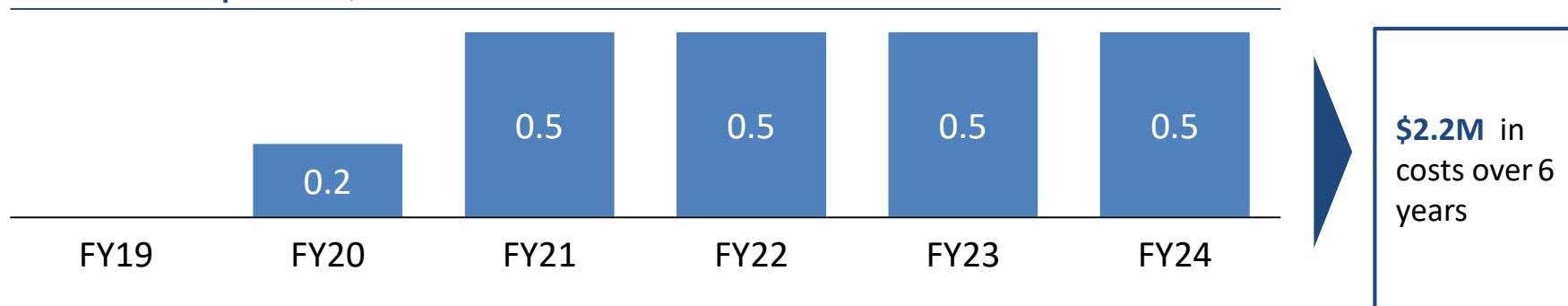
5. Next Steps

- HTA is requesting updated proposals from all three leading executive recruiting firms
- Upon receipt, HTA will consider, and award a contract within the previously established budget
- Once the firm is selected, potential candidates will be identified and presented as examples in support of the legislation
- Upon legislation approval, HTA will resume activities to develop its board in hopes of establishing a complete new board by FY21

HTA's new board structure will increase other operating expenses by \$500k per annum

- Beginning in Fiscal Year 2019 – HTA will operate under the control of a new board, which includes four industry expert board members
- In order to attract and retain board members with the desired qualification, HTA will need to compensate non-employee members in a manner similar to private board members
- HTA intends to compensate each non-employee board member **\$75k per year**. Total direct compensation will total **\$300k per year**. Board members are paid salaries as stipends, and are not entitled to any payroll benefits.
- These professional board members will be identified by a search firm, at an estimated cost of 33% of board compensation, total search fees not to exceed **\$200k in FY20 and no more than \$100k in any given year following**
- Each board member will be reimbursed for applicable office expenses and required board travel based on expenses incurred at a rate of **\$25k per year, or \$100k total per year**
- In total, the new, professional board structure will **increase other operating expenses by \$500k per year**, and serve to enable the organization to operate as an objective, corporate-like entity

Total cost to implement \$M



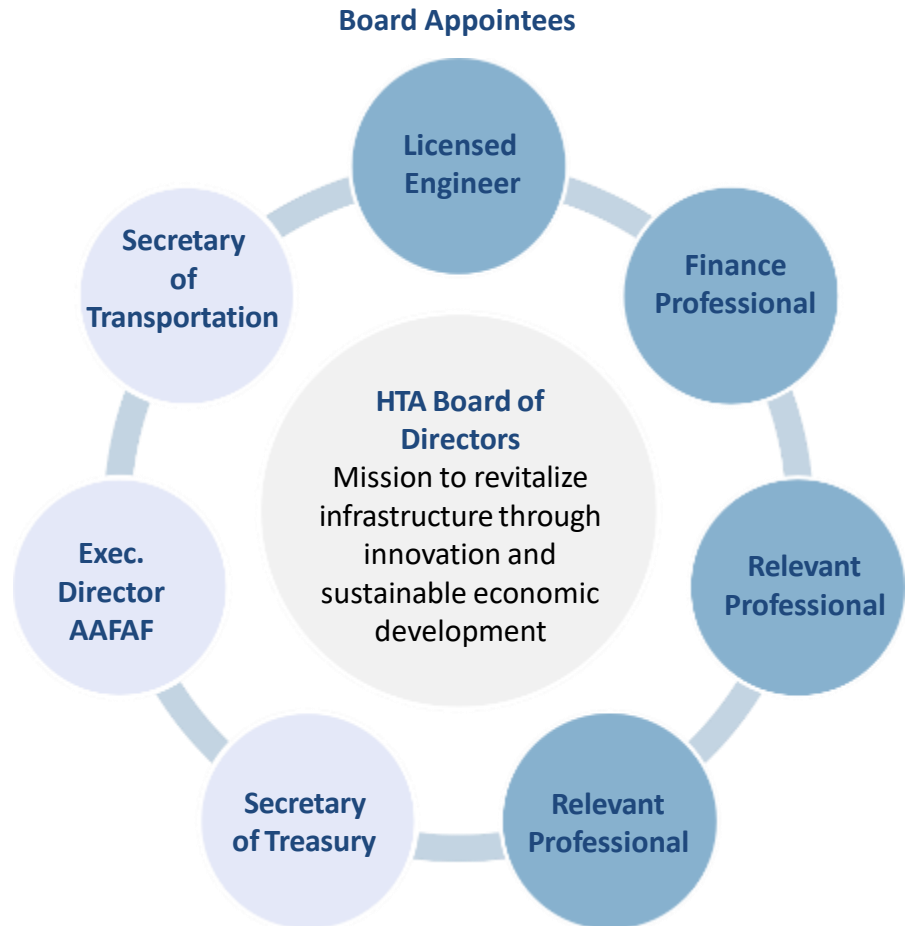
The new board structure will consist of both administration leaders and independent members to ensure effective governance of the organization

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Exhibit K Page 68 of 137

Board Design Overview

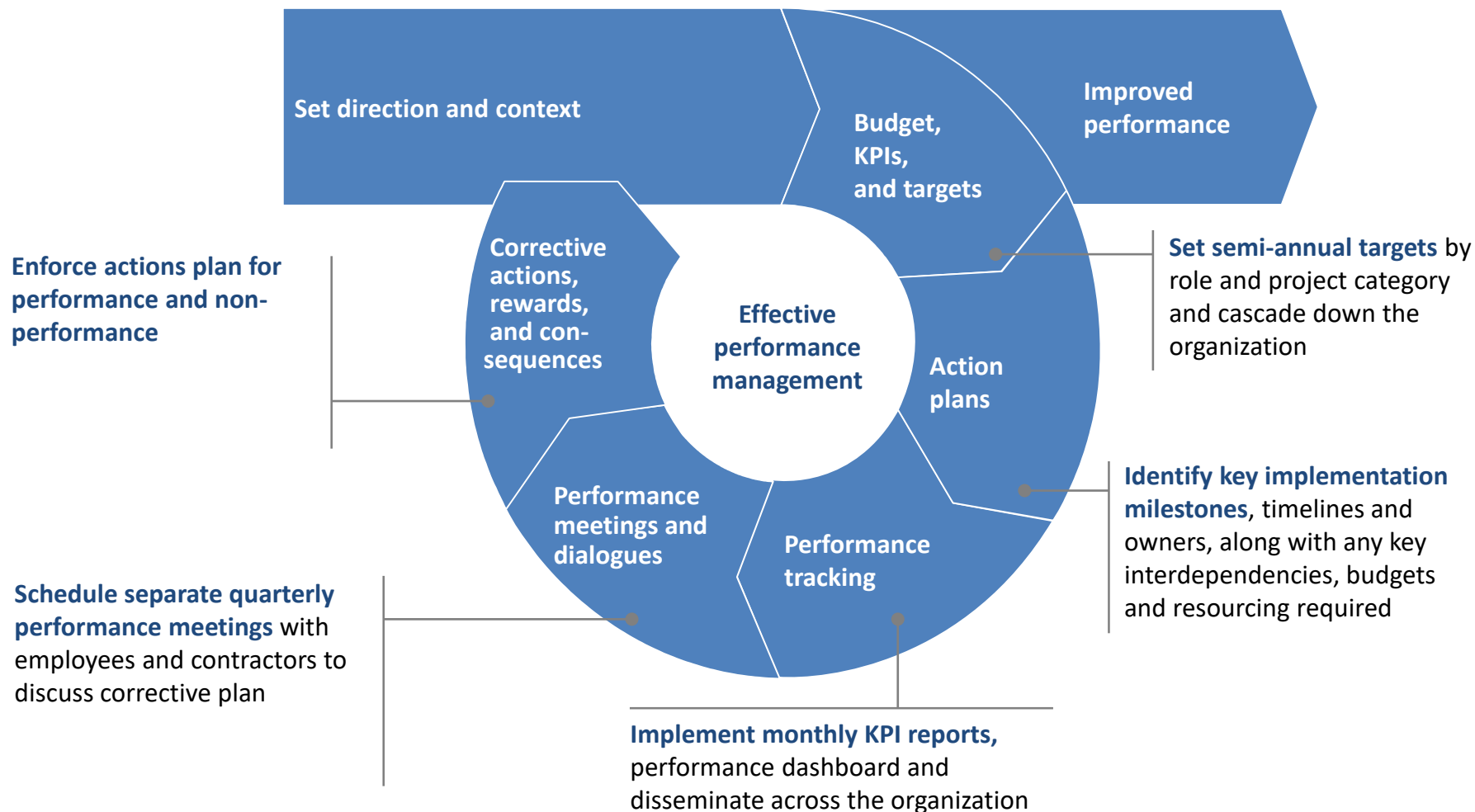
- A** Establish a governing body of 7 members all to be appointed by the Governor with a majority (4) independent directors identified by a private search firm
- B** Stagger membership tenure to further mitigate the risk of board disruption through political turnover
- C** Achieve desired expertise to maximize efficacy of long-term strategic planning and decision-making
- D** Apply strict conflicts of interest limitations and independence requirements to ensure that directors are correctly incentivized
- E** Appointment and removal of HTA leaders entrusted in the board, according to objective, merit-based standards, and pre-established KPIs

HTA board members will be held to the highest ethical standards, independent members can only be removed from roles before term expiration for a breach of the public trust



Industry experts will be identified by a professional search firm and serve staggered 2, 4, and 6 year terms, with 5 year terms following. Estimated cost of maintaining professional board is \$500K per year. Other relevant professionals will have extensive experience in economics, planning, public administration or economic development. Board composition details have been updated to reflect the current bill.

A priority set of KPIs will facilitate improved performance by increasing transparency and providing a base for incentives and penalties



2 HTA has defined high-level KPIs towards achieving outcomes, improving operational efficiency and safety

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Strategic priorities	Metrics	Actual	Target
Safety	# of road fatalities per 100M VMT	1.91	1.85
	# of road serious injuries per 100M VMT	24.0	31.7
Asset quality	% of Interstate Pavement in Good condition ²	10.8%	>2%
	% of Interstate Pavement in Poor condition ²	13.2%	<5%
	% of Non- Interstate NHS Pavement in Good condition ²	2.2%	>2%
	% of Non-Interstate NHA Pavement in Poor condition ²	9.0%	<20%
	% of NHS bridges in Good condition ²	20.5%	>10%
	% of NHS bridges in Poor condition ²	11.2%	<10%
Congestion	\$ of congestion cost per customer	\$1,150	\$1,045 ¹
	Travel time index	1.31	1.23 ¹
	Mins for incident response	NA	<15 mins

- The Transportation Asset Management Plan (TAMP) will be updated in June of 2019 with performance on many metrics
- Remeasurement and reporting many metrics expected in in 2020 and 2022
- Safety statistics are reported in the highway safety plan

HTA has further defined a set of metrics to track progress on the preconstruction process and construction delivery

Strategic priorities	Metrics ¹	Actual	Target
Preconstruction Program	Delays in NTP (Days from plan – Program Level) Quarterly – Cumulative	6 Days	<30 Days
	% of Planned NTP Awards (Program Level) Quarterly	100%	>80%
	% of Federal Funds Obligated (Program Level) Annual	NA	>90%
	% Soft vs Hard Costs (Program Level) Annual – Previous Year	NA	15%
Construction Delivery	% Change in Cost (Program Level) Quarterly - Cumulative	1%	<15%
	% Change in Duration (Program Level) Quarterly - Cumulative	5%	<25%
	Disbursement Variance (Program Level) Quarterly - Cumulative	32%	<20%
Capital Improvement Program	Disbursement Variance (Program Level) Quarterly - Cumulative	NA	20%

¹ All metrics are for the regular CIP program and applied only to projects bid after Maria. Reporting frequency and format detailed in Appendix A, with reporting expected quarterly if not more frequent

Toll Operations and Roadway Maintenance

- Toll operations KPIs are under development and included in the procurement documents for the new AutoExpreso operator and roadside systems maintenance contractor. These will be comprehensive and geared toward improved safety, network resiliency, customer experience, and financial performance.
- The roadway maintenance contract is envisioned to have a performance payment mechanism so that KPIs not only provide performance targets, but also determine payments, thereby establishing real-time incentives. KPI categories will include roadway surface condition, maintaining signage, guardrails, striping, and certain types of incident response and inspection frequency, all geared towards safety and extending the useful life of HTA assets.

Congestion Relief Project Metrics

- As HTA implements planned congestion projects, it will continue to work to improve metric reporting, establishing baselines for Congestion, Safety, and Environmental Impact. This process will occur over time and will involve project level metrics to gauge progress.
- Three stages of travel-demand model (VMT/PHT – based) assessments will be conducted to illustrate the performance of CR projects:
 - “Before” measures will be conducted during the NEPA process
 - “Forecast After” measures will be conducted during the NEPA process to compare to “Before”
 - ‘Actual After’ measures will be conducted after project completion and traffic stabilization

Sample project level metrics on project impact

	Metrics	Unit
Congestion	Vehicle Miles Traveled	VMT
	Passenger Hours Traveled	PHT
	Fuel Consumed	Gallons
Safety	Fatalities	#
	Injury Accidents	#
	Property Damage Only Accidents	#
Environmental	Carbon Dioxide CO ₂	Tons
	Nitrogen Oxide (NO _x)	Tons
	Particulate Matter (M10)	Tons
	Sulphur Oxides (SOX)	Tons
	Volatile Organic Compounds (VOC)	Tons

3 An increase in rates on existing toll roads is particularly relevant given HTA's context and other industry examples

Context

Examples

Existing toll rates and historic precedent

- Toll road operators should consider increasing fares to maintain the purchasing power of revenues
- HTA has not implemented toll fare increases since performing a catchup in 2005

- PR-22 and other private concessionaires have implemented a regular toll rate increase system to keep up with inflation (~1.5%)
- Inflation based increases, including “catch-ups” found in systems. For example In 2017, UK M6 toll operator Midland Expressway Limited increased toll fares to reflect a “catch-up with inflation.”

Toll fare demand elasticity

- Toll fares should not be set so high that they prohibit widespread use; however, they should reflect the value drivers get from enjoying a maintained highway

- A ~43% toll fare increase across toll plazas in 2005 yielded a 50.4% growth in revenues for HTA between 2005 and 2007, highlighting limited relative impact on demand
- Large, one-time toll increases can be detrimental to regular commuters and may dissuade from toll road use in the long-term

Fiscal impact and operating / capital sustainability

- Toll operators should consider fiscal sustainability when setting toll prices (e.g., keeping up with inflation / CPI, tracking operating costs, funding CIP, etc.)
- A precedent of regular fare increases is less disruptive for drivers to adjust to than an irregular schedule of catch-ups

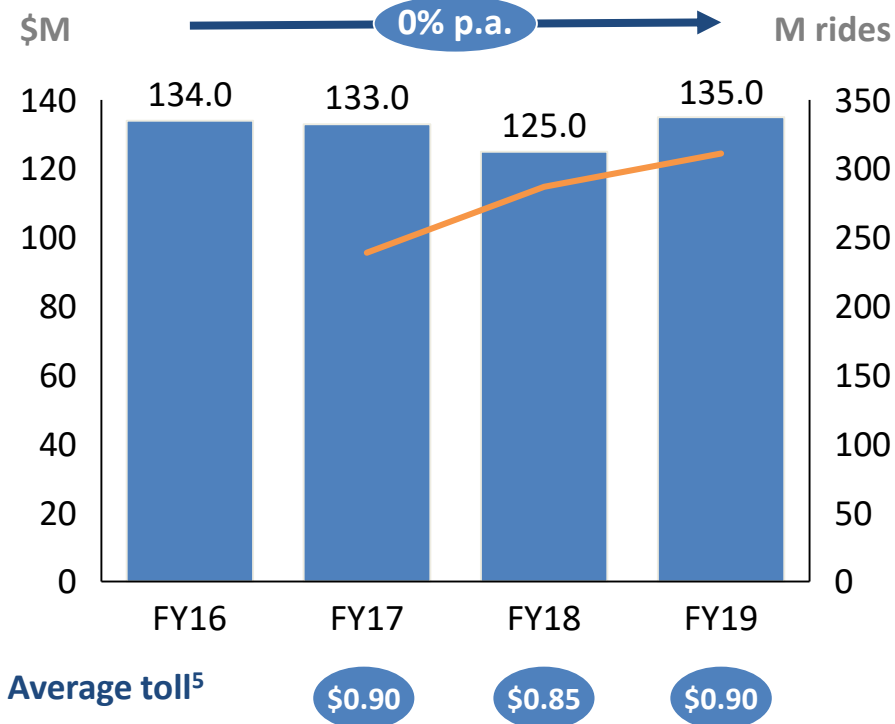
- Opex for HTA is increasing at 3% per years since 2016 while toll fees have remained flat
- Tolls from Germany’s LKW Maut toll road represents the single most important source of revenue (~80% of funding) for its Transport Ministry
- Tolls are used in part by Metropolitan Washington Airports Authority to help fund the expansion of Metro’s Silver Line - ~50% of construction costs (~\$2.8B) are funded by toll fares

Socio-economic impact and concentration

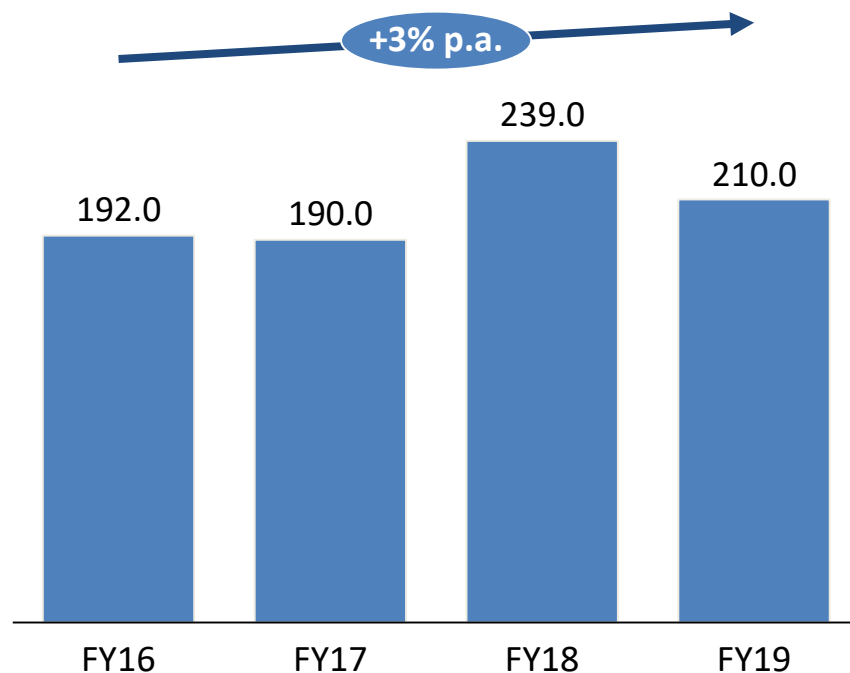
- Infrastructure should be paid for by the actual users of the asset, rather than broad taxation policies (state government transfers, gas tax)

- Gas tax increases adopted by 30 states since 2013, tying increase in transportation funds with users of the system
- In 2006, Oregon DoT deployed a pilot VMT-based taxation program to offer a “fair and sustainable way to fund road maintenance, preservation and improvements for all Oregonians.”

Toll revenues⁴ and ridership



Total operating expenditures³, \$M



1 Based on 2014 AADT and toll revenue for PR-20, PR-52, PR-53, and PR-66 (\$127M)

2 Trips based on FY15-18 revenues divided by 2014 toll per trip

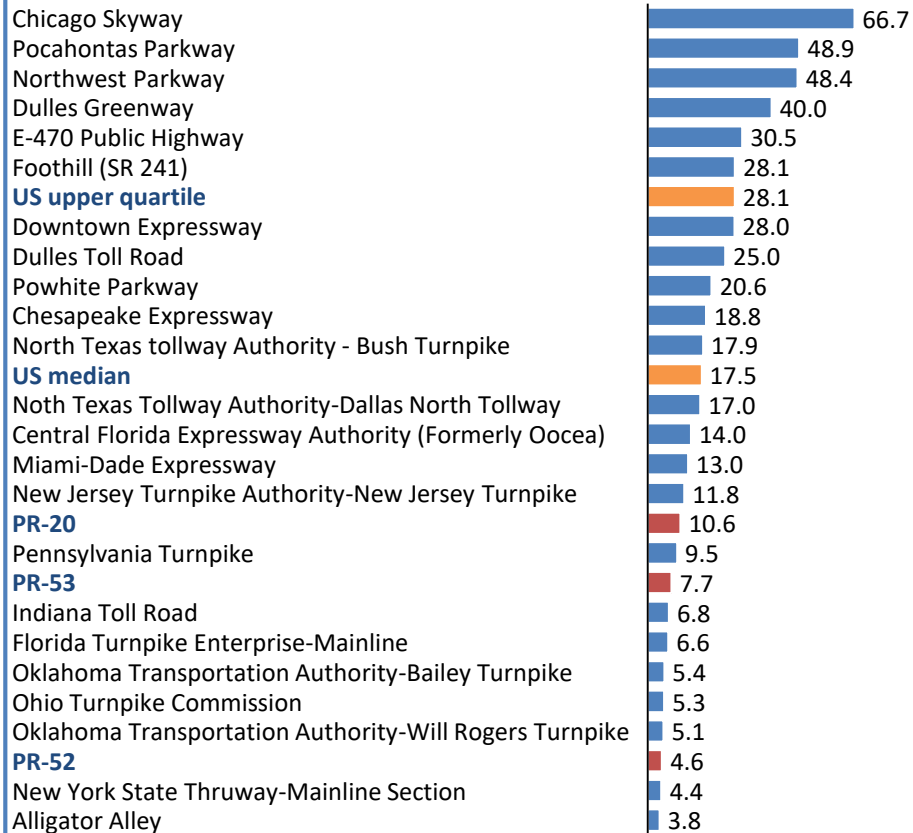
3 FY15-FY17 from public FP. FY18 from HTA FY18 B2A. FY19 from FY19 budget

4 FY16-FY17 HTA AFS, FY18 from HTA FY18 B2A, FY19 annualized from HTA Feb FY19 B2A

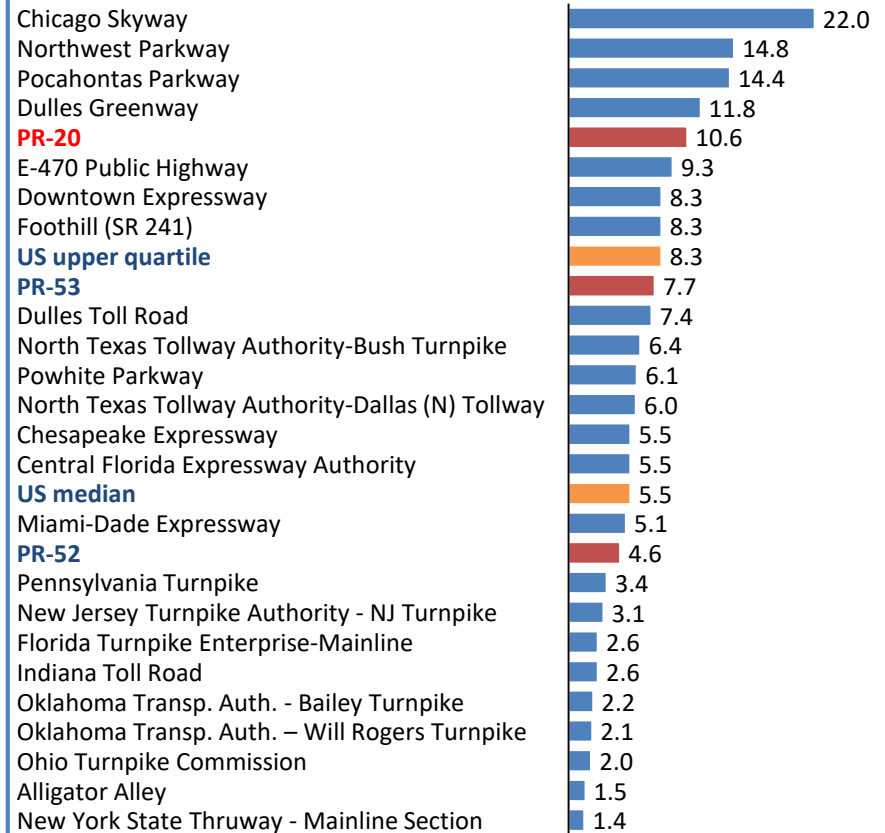
5 Annualized based on data from Jan 2017 to Oct 2018

Income adjusted toll per mile comparisons suggest there is still further scope for increase relative to other states

Toll mile comparison by state¹, cents



Income adjusted toll mile comparison by state^{1,2}, cents



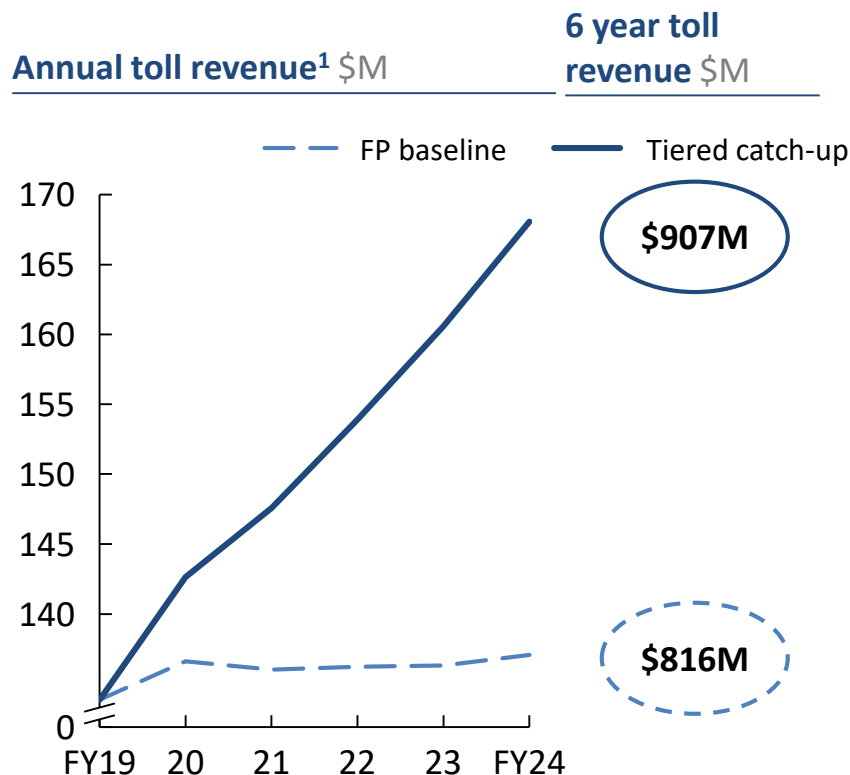
- HTA has not increased tolls in line with inflation, while PR-22 (concessioned) has implemented regular rate increases to keep up with inflation. As such, PR-22 and PR-5 are not reflected in the above, nor is PR-66 which as of today is priced in line with peer states
- On a toll per mile basis, PR-52 and PR-20 are below the US median, while PR-53 is below the upper quartile
- On an income adjusted toll per mile basis, PR-52 is below the US median, PR-53 is below the upper quartile while PR-20 is in the top quartile

¹ Toll rates are the standard Electronic Tag Tolls with no further discounts (e.g., no weekend, volume, senior, loyalty programs). Tolls as of Jan 2018

² Income adjusted to specific road corridor within Puerto Rico

3 Increasing tolls based on a tiered CPI catch up should generate ~\$91M in incremental revenue from FY20-24

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Rate increase based on tiered catch-up of historical CPI since last toll raise, plus average CPI of 1.62% to account for current year(s), over the first 5 years. Subsequent years increased by CPI plus 1.5%.

- **HTA can increase toll revenues by ~11% or \$91M over the next 5 years**, by adopting a tiered increase in toll rates between FY20-24
- PR-52 represents 91% of the \$91M incremental revenues, and is currently **below the income adjusted US median toll per mile**
- **The tiered catch up helps to ensure that the purchasing power of toll revenues keeps up with inflation**, and is supported by third party revenue estimates

¹ Scope includes existing tolls only (i.e., PR-20, PR-52 and PR-53), and PR-66 given higher existing tolls

Toll rates on PR-20, PR-52 and PR-53 will have an average annual increase of 5 cents on toll plazas over the next 5 years

Toll rate projections¹ \$

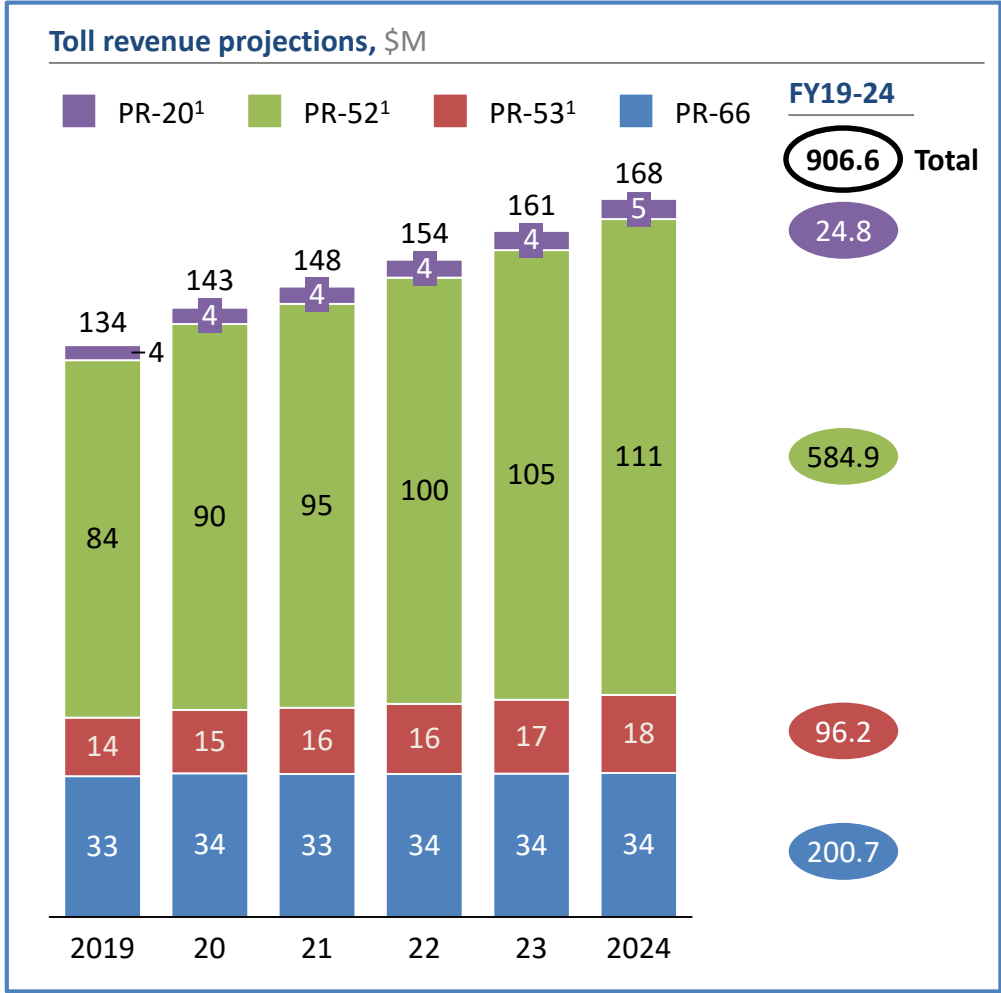
<u>Toll road</u>	<u>Toll plaza</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
PR-20	GUAYNABO	0.75	0.79	0.84	0.89	0.94	0.98
PR-52	MONTEHIEDRA	0.35	0.37	0.39	0.41	0.44	0.46
PR-52	CAGUAS NORTH	1.50	1.59	1.69	1.79	1.89	1.98
PR-52	CAGUAS SOUTH	1.00	1.06	1.13	1.19	1.26	1.32
PR-52	SALINAS	1.75	1.86	1.98	2.09	2.21	2.32
PR-52	SOUTH RAMP SAL.	0.35	0.37	0.39	0.41	0.44	0.46
PR-52	NORTH RAMP J DIAZ	0.50	0.53	0.56	0.59	0.63	0.66
PR-52	SOUTH RAMP J DIAZ	0.50	0.53	0.56	0.59	0.63	0.66
PR-52	PONCE	0.75	0.79	0.84	0.89	0.94	0.98
PR-53	HUCAR	1.00	1.06	1.13	1.19	1.26	1.32
PR-53	GUAYAMA	0.50	0.53	0.56	0.59	0.63	0.66
PR-53	CEIBA	1.00	1.05	1.10	1.15	1.20	1.25
PR-53	HUMACAO NORTE	1.00	1.05	1.10	1.15	1.20	1.25
PR-53	HUMACAO SUR	1.00	1.05	1.10	1.15	1.20	1.25
	Median increase (\$)		0.05	0.05	0.05	0.05	0.05
	Median increase (%)		5.9%	5.7%	5.3%	5.5%	5.2%

- Toll rates will increase by **5.5% annually between FY20-24 to catch-up with CPI, and increase at CPI plus 1.5% (~3%) subsequently, in line with PR-22**
- **Toll roads would continue to offer significant time and reliability value to customers that well exceeds out of pocket costs** (total cost of delay of \$9.10 an hour² for someone taking an alternative toll-free route from Ponce to San Juan, vs. \$5.51³ total tolls paid on PR-52 via Ponce, J. Diaz, Salinas, Salinas South Ramo, Caguas North and Montehiedra toll plazas)

¹ Tiered catch-up of historical CPI since last toll raise, plus average CPI of 1.62% to account for current year(s), over the first 5 years. Subsequent years increased by CPI plus 1.5%

² Assumes \$7.00 wage cost per hour (50% of hourly wage) and \$2.10 cost of excess fuel per hour. Total delay of one hour based on estimated additional time taken for a one way trip on a toll free route (i.e., PR-14) from Ponce to San Juan vs. PR-52, departing at 8am on a weekday

³ Based on total tolls in 2019 (after first year of increase)



Volume projections², M vehicles

	2019	2020	2021	2022	2023	2024
PR-20	3,960	4,020	3,982	3,988	3,990	4,012
PR-52	76,848	78,008	77,269	77,385	77,441	77,866
PR-53	12,964	13,160	13,035	13,055	13,064	13,136
PR-66	25,041	25,419	25,178	25,216	25,234	25,373

1 Tiered catch-up of historical CPI since last toll raise, plus average CPI of 1.62% to account for current year(s), over the first 5 years. Subsequent years increased by CPI plus 1.5% (not applicable to PR-66)

2 Ridership amounts projected based on real GNP growth

HTA is targeting increases in discretionary grant funding by over \$50M over six years by targeting priority programs, including the \$18B PR CDBG Program¹

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Program	Total Program Funding (to date) ¹ , \$M	Funding received by Puerto Rico (to date) ¹ , \$M	Funding received by PR, % of total offered	Key program opportunities
Capital Investment Grants (1996-2017)	37,659	308	0.8%	<ul style="list-style-type: none"> PR has not secured any discretionary grants over the last 5 years - the last discretionary grant Puerto Rico received was in 2012 under IBRD, while TIFIA and CIG grants date to the early 2000s \$18.1B in HUD CDBG-DR funding has been awarded to Puerto Rico, providing a set of funds that HTA has the opportunity and commitment to pursue PR can generate at least ~\$15M in additional run rate funding by 2023 or >\$50M over 6 years, by capturing 0.3% of the CDBG-Disaster Relief grant to PR, or its per capita fair share (1%) of only TIGER and INFRA funds HTA may need to meet the local share of additional federal funding it receives
Community Development Block Grant – Disaster Recovery (2018)	28,000	18,000	64%	
TIFIA loans (1999-2017)	26,000	300	1.2%	
TIGER (2009-2016)	3,581	10	0.3%	
INFRA (2016-2018)	840	0	0%	
Highways for LIFE (HfL) (2006-2013)	68	0.1	0.1%	

¹ Fiscal measure expected to generate savings by reducing future capex needs. All Federal Funding received will be utilized for transportation projects

HTA 2019 Discretionary Funds Applications

Program Name	Program amount \$B	Expected Timeline	Rationale	Status
INFRA	1.5	March, 2019	Well matched for funding Toll Viaducts which already have local funds dedicated	✓ Application Submitted
CDBG-DR	18.5 20.0	Variable - Pending Department of Housing (DOH)	HTA is in discussions with DOH on allocating recovery funding through CDBG-DR for critical infrastructure projects	✓ Initial Request Submitted, updates pending
BUILD / TIGER	1.5 1.5	July, 2019	Funds critical infrastructure for Highways and Transit	➡ Application submission under review by HTA
Bus & Bus Facilities Infrastructure Investment Program	0.4	August, 2019	Can fund needed repairs and upgrades to Bus Stations and Service Centers	➡ Application submission under review by HTA
Capital Investment Grants - 5309	2.3	Rolling	Additional Funding Requires Onerous application process with limited near term benefit	➡ Application submission under review by HTA

- HTA reviewed a list of 12 discretionary funding opportunities, determining levels of matching funds required, types of projects the funds could be applied to, likelihood of win, and applicability of funds to projects of critical importance to HTA
- The initial list of 12 opportunities was narrowed down to a list of 5 promising grant funding options that would have a higher probability of winning and were directly applicable to existing HTA needs
- HTA has applied to the INFRA grant program and is currently working through a process of applying for CDBG-DR funding with the PR Department of Housing
- HTA will pursue applications to the other 3 grant programs over the next several months as appropriate

Specific discretionary fund program and required uses of funds need to be considered when determining the potential fiscal impact. One example of the potential positive fiscal impact of discretionary grants would be for project focused in reconstruction and improving resiliency within the highway network. HTA is identifying opportunities for obtaining discretionary grants that will result in a potential reduction of the funds needed to maintain the highway network in State of Good Repair (SGR). A key opportunity is related to the recovery efforts under the Community Development Block Grant – Disaster Recovery (CDBG-DR) program.

Based on the recent experience of Hurricanes Irma and María, bridges are the highway assets most affected, requiring more recovery efforts and time to put them back in operation. Partially or fully collapsed bridges imposed big challenges on the recovery efforts, leaving communities isolated without access to first aid responders. Improving the structural capacity of those bridges, while making them more resilient, is critical in future disaster events, such as hurricanes.

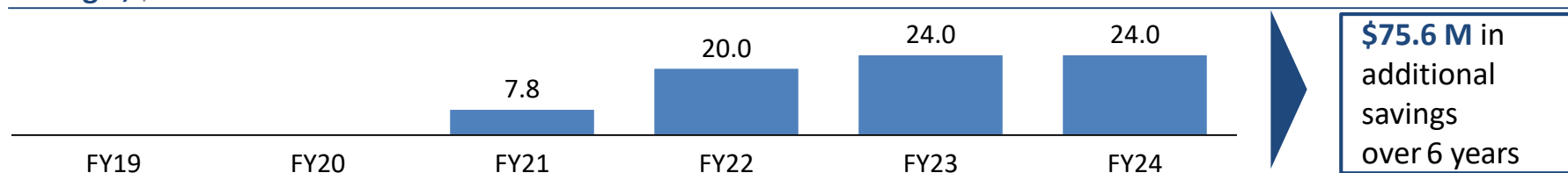
Puerto Rico has 1,744 bridges over water bodies, with potential for scouring and bridge collapse during flooding events. Out of those bridges, more than 485 bridges have been identified as “scour critical”, resulting in a higher risk of damage/collapse during rain events. Another 1,000 bridges are pending further evaluation to determine the level of scouring.

Per research done by the HTA, and validated by Gordon Proctor and CMA Architects & Engineers, LLP, it is estimated in \$85.5M the minimum annual investment in bridges reconstruction. Hence, any grant the HTA receives with the objective of reconstruction of bridges susceptible to scouring or requiring reconstruction/preservation to maintain the corridor open during future emergency events, can result in a offset of state funds allocated for SGR.

The HTA will submit to the Puerto Rico Department of Housing an application for CDBD-DR for the reconstruction, preservation or replacement of bridges with scouring or other structural deficiencies, minimizing the risk of future damages or collapse. The project will include design elements to obtain a more resilient structure, capable to withstand future disaster events. The CDBG-DR funds may be used to complement FHWA’s ER Program funds, focused only on the damaged elements of the structure.

Preliminary estimates of funding needs for this program is more than \$150M, which exceed the Revised Fiscal Plan impact target of \$52M from FY19-24

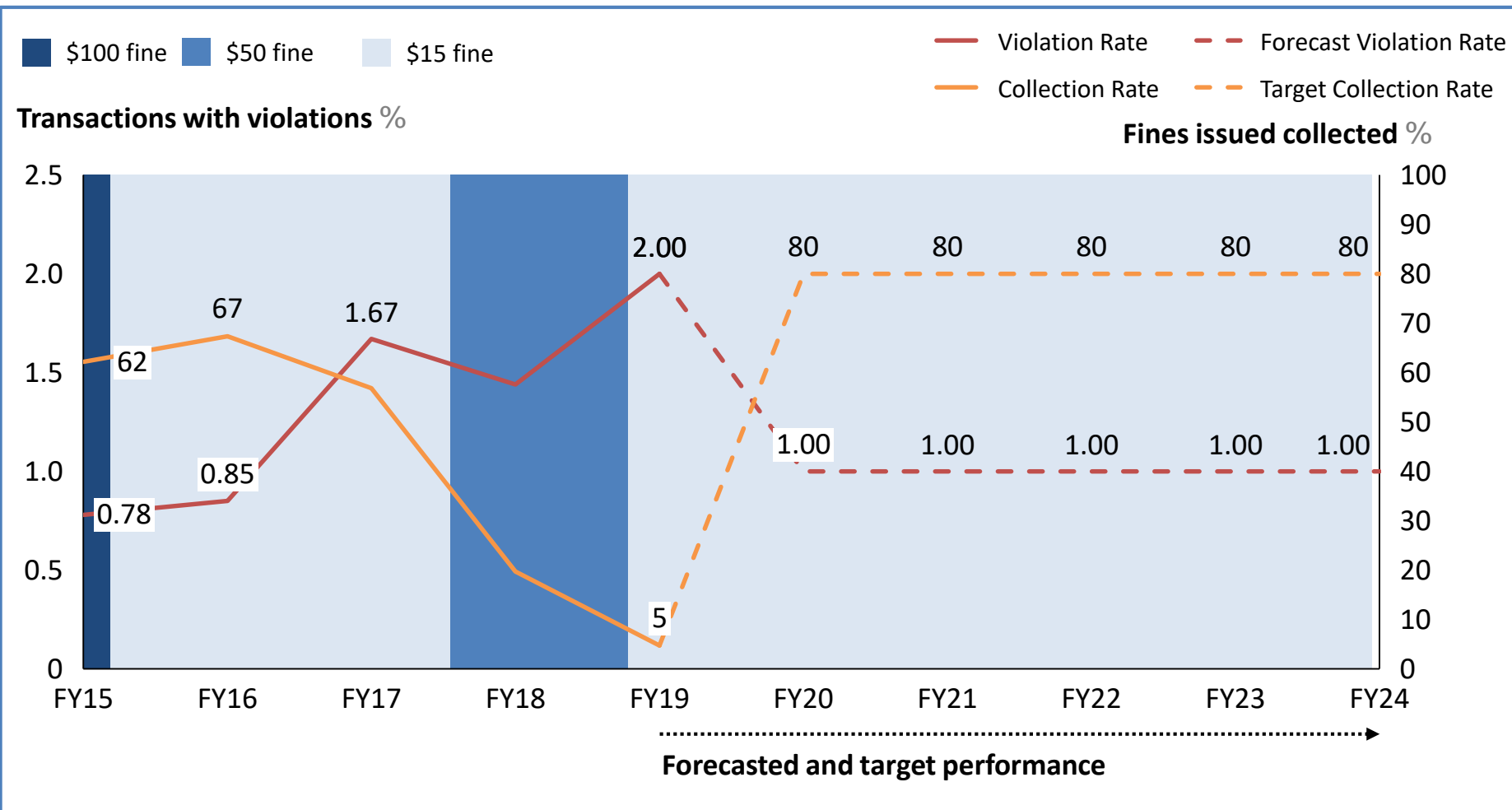
Savings¹, \$M



¹ Fiscal measure expected to generate savings by reducing future capex needs. All Federal Funding received will be utilized for projects

- **Background:** In the June 2018 Certified Fiscal Plan, toll optimization was designed to reduce the costs of collection via improved vehicle detection accuracy, leading to less void violations. In August 2018 HTA commenced the procurement process to upgrade the toll network, then operated under a contract set to expire June 30, 2019.
- **Legislative changes:** On September 2018, the Secretary of the Department of Transportation and Public Works (“DTOP”) issued Administrative Resolution 2018-15 which waived all toll fines issued and outstanding prior to September 17, 2018, signed into law under Act 220. Act 220 provides for the mandatory registration of all vehicle tags. Through the registration of the tags, users will be informed of their toll account balance therefore minimizing toll violations. Act 220 also reduced prospective toll fines from \$50 to \$15. A compliance certificate was issued by the Government providing assurance that this policy would have no impact to HTA’s June 2018 Certified Fiscal Plan.
- **Operator termination:** On September 2018, HTA terminated the contract of the existing operator with a 90-day transition period. Subsequently, on January 2019, the Termination Assistance clause was invoked providing for an additional 90-day transition period in order to provide for an organized and uninterrupted transition to a new operator to be contracted by HTA. The Transition Assistance Period was subsequently extended to October 2019 and contract assigned to Professional Account Management. LLC (PAM). PAM will provide interim operations to HTA until the permanent operator is ready to deploy the new network.
- **Risks:** The early termination of the operator’s contract and the corresponding due diligence implemented to assist in the procurement of a permanent operator enabled HTA to identify significant risks associated to the operation, including:
 - Operating system risks of collapse or rendering non-operational for extended period of time, therefore posing risk of loss of revenues across all relevant entities (HTA, Metropistas, Moscoso Bridge and Municipality of Guaynabo)
 - Absence of disaster recovery, continued operations redundancy and hardware and software support
 - Transactions effected by toll users not maintained in a timely fashion therefore providing for unwarranted toll violations and fines, jeopardizing the credibility of the network
 - Lack of spare parts to adequately maintain the roadside equipment has obligated HTA to cannibalize parts from low volume plazas to service high traffic plazas
 - Approximately 40% of toll user tags lack user name and address, therefore compliance measures are inefficient with high volume of returned mail and low collection efficiency (approximately 60%). Furthermore, toll fine collection cycle is estimated at 18-months.

Violations peaked in FY19, while fine collections fell to a 5-year low, well below comparable collections performance of 60-80%+

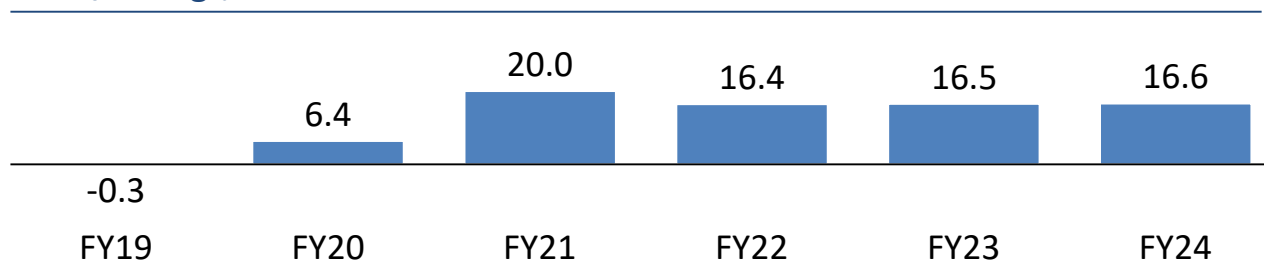


SOURCE: Toll system data, HTA response letter to FOMB toll fine data request, dated 10/9/2018

Toll Collection Optimization – approach to enhance the system and generate fiscal impact

- **Goal:** HTA will implement a technology-enabled proven system operated by an industry recognized entity that will properly service users in an efficient and compliant manner. HTA expects to return to a reduced 1% toll violations rate and a 80% toll fine collection ratio, an increase from roughly 60% performance in the pre-Hurricane Maria period. Furthermore, the collection cycle is expected to be reduced from the historical 18-months to a target of 12-month collection cycle.
- **Status:** On November 5, 2018, HTA's Board of Awards published a RFP for the BOS/CSS. Seven industry participants submitted proposals. Six of the seven passed to a Second Phase RFP. The Second phase is expected to be published on July 2019.
- **Milestone:** The target date for the completion of the BOS/CSS procurement is September 2019. The target date for the conversion into the new network is December 2020.
- **Outcomes:** In addition to the forecasted and targeted violate and collection rates, the newly implemented network is expected to include the following improvements:
 - Increased reliability and speed in transaction processing and account balance maintenance
 - A fully PCI compliant system
 - Transparency between the lane and the back office, ensures optimization in the capture and recording of transactions
 - New customer friendly channels to increase registered accounts and remove reliance on costly ILR operations and reduces violation processing
 - Enforceable KPIs to ensure optimal performance

Costs/Savings, FY19-24 \$M



\$75.6 M in savings over 6 years

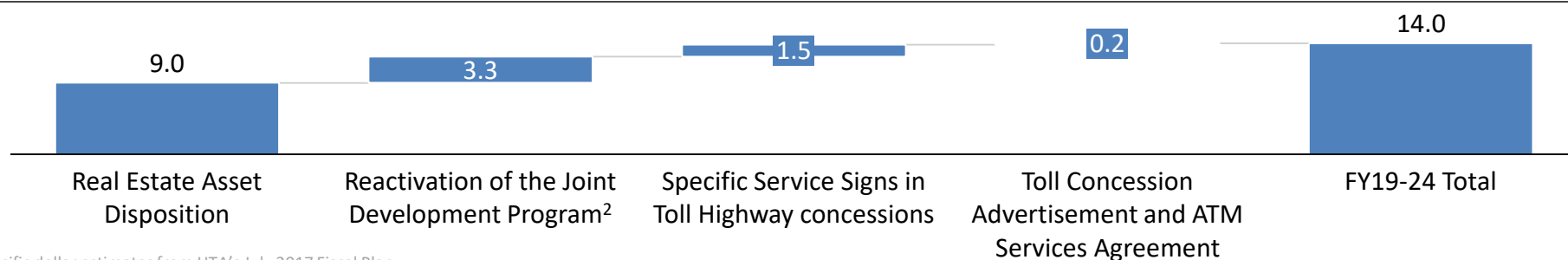
HTA will continue to explore innovative ways to increase revenue, including:

- **Real Estate Asset Disposition:** HTA estimates a potential \$1.5M of annual revenue by developing a noncore asset disposition program
- **Reactivation of the Joint Development Program:** This program provides for residential/commercial projects in the Tren Urbano corridor
- **Specific Service Signs in Toll Highway Concessions:** Implementation of service signs could result in ~\$250K of annual revenue to HTA
- **Toll Concession Advertisement and ATM services agreement:** HTA estimates the potential for \$25-30K of annual revenue related to concession advertisements

HTA will research and consider additional potential revenue streams, including but not limited to the following:

- **Traffic Information Monetization:** Identify opportunities to monetize traffic information and continue to expand highway sensor network for data collection purposes
- **Other-Mobility Services:** Evaluate viability of increasing mobility services (park & ride / ride share) and develop an implementation plan as necessary
- **Equity Solutions:** Equity in new P3 concessions could be used to settle debt obligations and raise capital for reinvestment

Costs/Savings, FY19-24 \$M

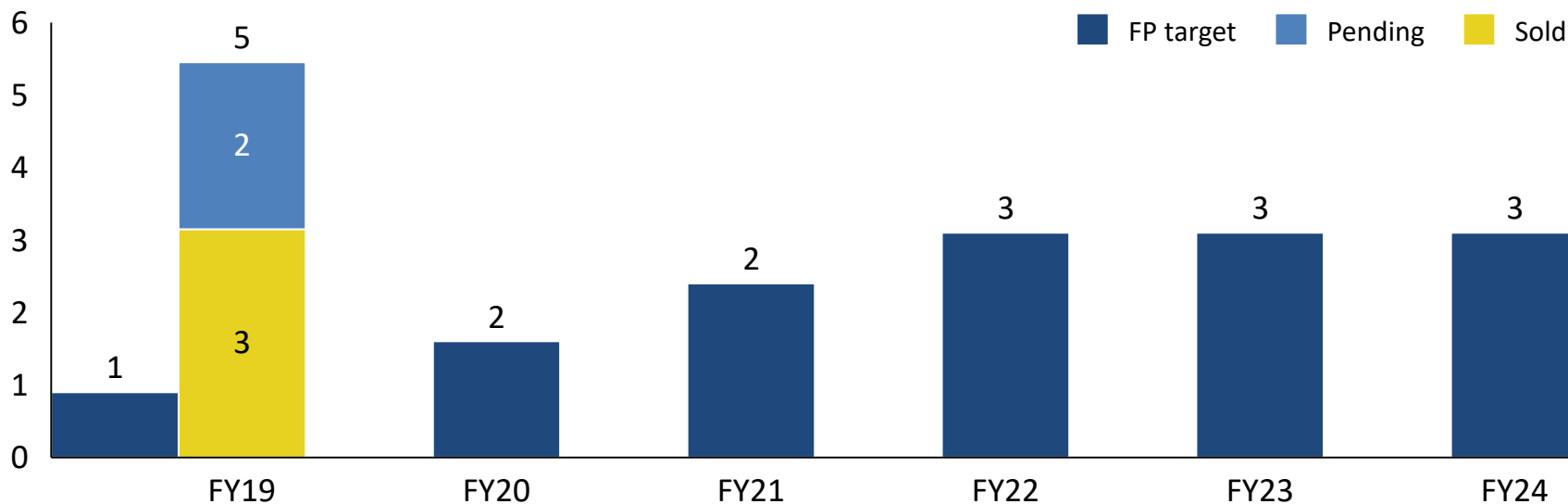


¹ Specific dollar estimates from HTA's July 2017 Fiscal Plan

² Extrapolated from FY19-24 total and assumed breakdown of funds

Real Estate Asset Disposition:

- HTA has successfully completed sales of 5 properties in FY19 totaling **\$3.15 Million**
- HTA is in the process of selling 9 additional properties that are projected to close during FY 2019, totaling **\$2.3M**
- Properties sold or in the pipeline as of April 2019 exceed the Fiscal Plan target for the year by over 700%
- **HTA's property sales to date (actual and pending) represent 39% of Fiscal Plan targets through 2024**

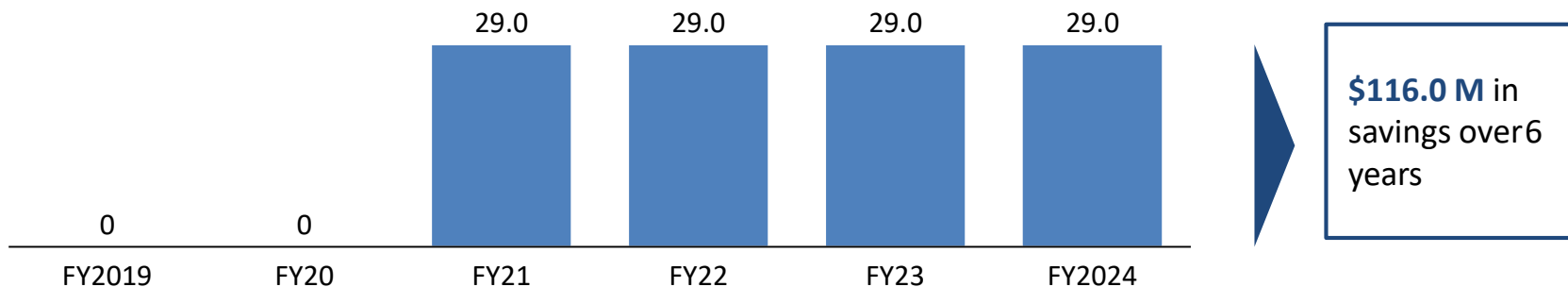
Ancillary revenue fiscal impact target and performance to date, \$M

HTA targets \$116M of fiscal impact through CIP optimization, focused on project prioritization

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- CIP optimization requires focusing on the levers of capital efficiency and best practices derive the highest value of money for the citizens of Puerto Rico. Project Prioritization allows HTA to implement its highest value projects while achieving the fiscal impact targets.
- CIP Optimization efforts are critical given market uncertainty and impacts of inflation or other forces
- Project Prioritization can be applied to unrestricted state funds in FY21 and beyond. Prioritization will determine which projects to pursue within the budget envelope.
- HTA will reduce hard costs of the CIP by \$29 million per year from FY21 through FY24 relative to the baseline CIP
- Prioritization is expected to be the main lever of optimizing the CIP while the transformation occurs and market conditions improve, however additional levers across delivery efficiency and soft cost optimization will be pursued

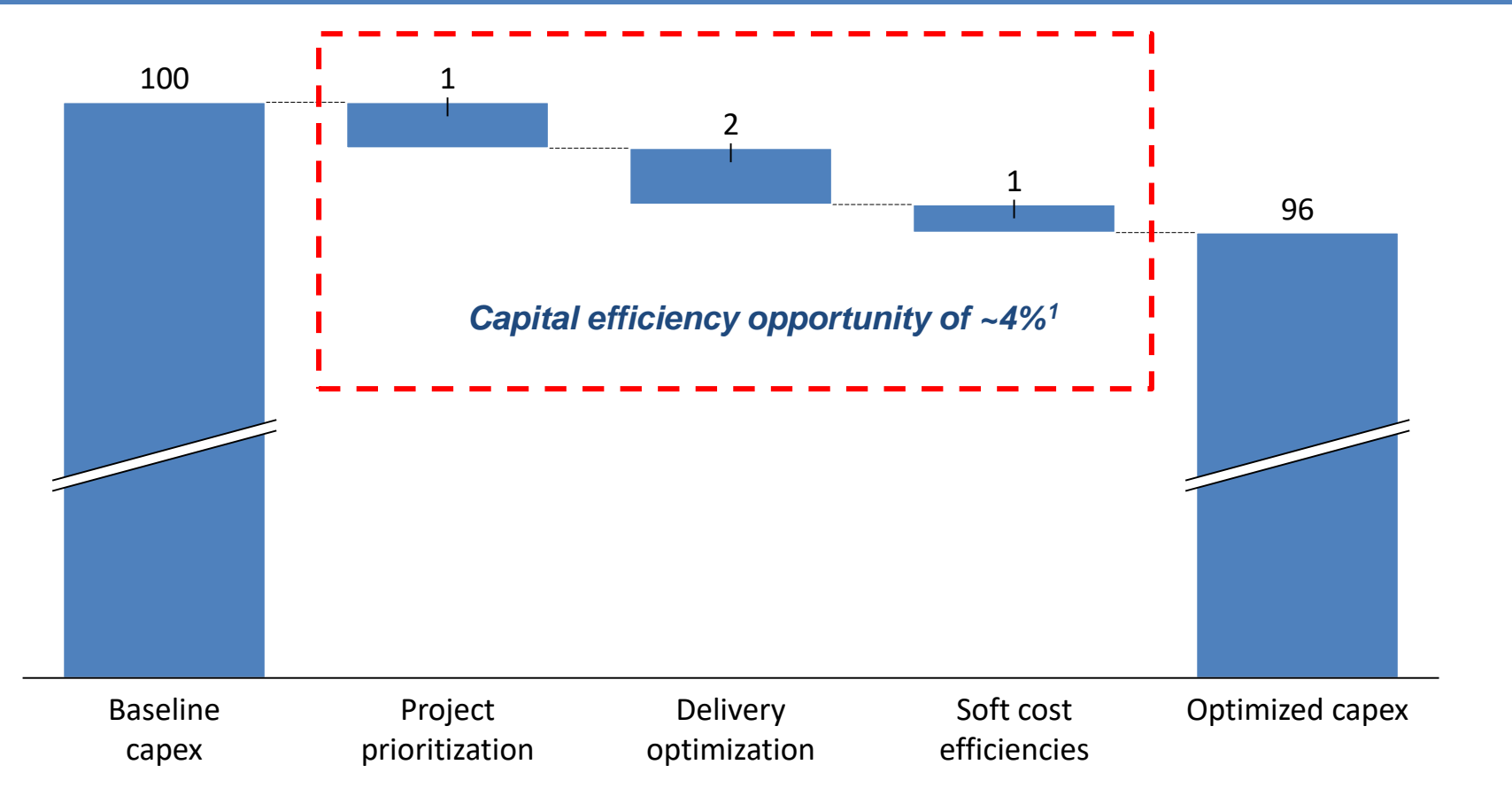
Costs/Savings from CIP Optimization, FY19-24 \$M



Total capital efficiency opportunity should be at least ~4% to support HTA's objective of improved performance within a constrained capital environment

Impact of capital efficiency measures on Baseline capex estimates

%



¹ Best in class project prioritization in infrastructure projects can save 7-15% while improved delivery efficiencies can reach 15-25% in savings. Based on these benchmarks, further opportunity may exist in addition to the estimate of 4% across the portfolio. The delivery optimization opportunity is discounted using the Commonwealth's inflation adjustment to account for potential increases in construction costs.

While HTA's initial focus will be on project prioritization, it will further target capital efficiencies through delivery improvements, and soft cost savings

Key levers

Description of potential approach and impact

Project prioritization¹

- **Further align projects with socioeconomic priorities** e.g., congestion, road quality, average AADTs, and economic benefits
- **Further review STIP and CIP projects on secondary and tertiary roads and de-prioritize roads with less AADTs and economic benefit**, to ensure that resources are being well utilized in capital constrained environment

Delivery improvements²

- **PR-66 case study** highlights proof-of-concept that projects can be limited to a **5% targeted cost overrun by improved delivery**
- Additional optimization with **project management**, contractor **incentives** (e.g., ratings/bonuses), and **contract structures** (passing delivery risk)
- **Improve project execution on whole portfolio** with improved delivery with **on locally** funded roads projects and **federally** funded roads projects, with innovative contracting and better project execution

Soft cost savings

- Find opportunities to **segment Federal and non-Federal dollars to reduce pre-construction regulatory burden**
- **Capture efficiency benefits of outsourcing** (economies of scale etc.) and reduce overall budgeted soft costs to allow for lower soft cost budgets for both federal and state construction projects (~\$200M value at stake)

Total optimization target

\$116

¹ Value at stake limited to not-yet-active locally funded roads projects.

² Value at stake limited to not-yet-active roads projects. Previous estimates had an additional ~\$78M opportunity for delivery optimization, but because construction cost inflation was not factored into previous analyses, an inflationary factor in line with the Commonwealth (~1.5-2%) was added to reduce the CIP's delivery optimization opportunity by approximately ~\$78M. Note that other Title III instrumentalities (PREPA and PRASA) did not adjust Fiscal Plans for inflation.

Historically, HTA has experienced cost overruns averaging approximately 30% more than initial cost estimates.¹ Through the implementation of outsourcing and improved project delivery methods via the Workforce Transition Program and “MOU” initiatives, HTA believes it can reduce cost overruns of approximately 15% or more (depending on project type and asset class), which is in line with industry standards and builds on experience from PR-66.

Historical Project Execution:

- Highway projects have historically been delivered using a design-bid-build process, where construction contracts have been structured on a per-unit-price basis
- Because the bidding process (via RFP) has been typically based on unit price contracts, contractors have not been incentivized to present bids with the lowest possible costs to adequately complete a project. Instead, contractors provide unbalanced bids that result in higher prices at project completion. This problem has been extensively discussed in the construction management literature.
- Additionally, because construction has been predominately managed in-house, personnel costs have not declined commensurately with less construction spend, nor were in-house managers’ appropriately incentivized to adhere to project goals
- These methods of project execution have resulted in cost overruns averaging 30% and significant completion delays¹
- Some historical projects have seen better success - such as PR- 66 which experienced just 5% cost overruns when it utilized outsourcing and innovative contracting to improve project execution³

Target Project Execution:

- HTA has already begun transforming its project delivery capabilities in an attempt to eliminate its project backlog. These transformations have begun via compliance with the Memorandum of Understanding (“MOU”) between the HTA and the FHWA.⁴
- HTA forecasts that by complying with the objectives specified in the MOU, and more widely implementing an outsourcing model and innovative contracting methods, the organization can reduce cost overruns by more than 15%³
- Implementing the outsourcing and innovative contracting models will better align contract managers’ incentives with on time/on budget project delivery, improve HTA’s ability to scale staff to properly implement construction spend, and align contractors’ incentives for more cost-conscious competitive bidding, among other benefits

¹ Historical cost overruns estimate provided by HTA Management

² Industry standard cost overruns provided by HTA construction office

³ 2016 Case Study on PR-66 base on published technical papers. González Quevedo, Sergio L., Effective Competitive Procurement and Financing with Innovative Contracting: The Solution to Transportation Infrastructure Construction, Operations and Maintenance in the 21st Century, Key Note Speaker in CRC 2016, June 2016. See the following page for additional discussion on the results of PR-66.

⁴ MOU signed by the government of Puerto Rico and Federal Highway Administration. Source: MOU-PR2016-02-29-094734

During construction of PR-66, HTA used various methods to implement each stage of the project over various periods from 1998 through 2012. In Phase II (2011-2012), HTA utilized a combination of innovative contracting and outsourcing to reduce cost overruns and project delays¹

Case Study: PR-66 1, *

During construction of Phase II of PR-66, HTA utilized (i) innovative contracting including hybrid contracts, simplifying the RFP process by prequalifying bidders and granting early completion bonuses, and, (ii) outsourcing, to unlock future savings from value engineering to reduce cost overruns to 5% and project duration to just 6% over schedule.¹

Previous phases of PR-66 were delivered via design-bid-build using a unit-price contract. These phases had average cost overruns of 33.1% and average project delays of 60%.¹

Notably, cost and project duration savings occurred once HTA fully utilized both innovative contracting and outsourcing.

Some Benefits seen during PR-66 Phase II:*

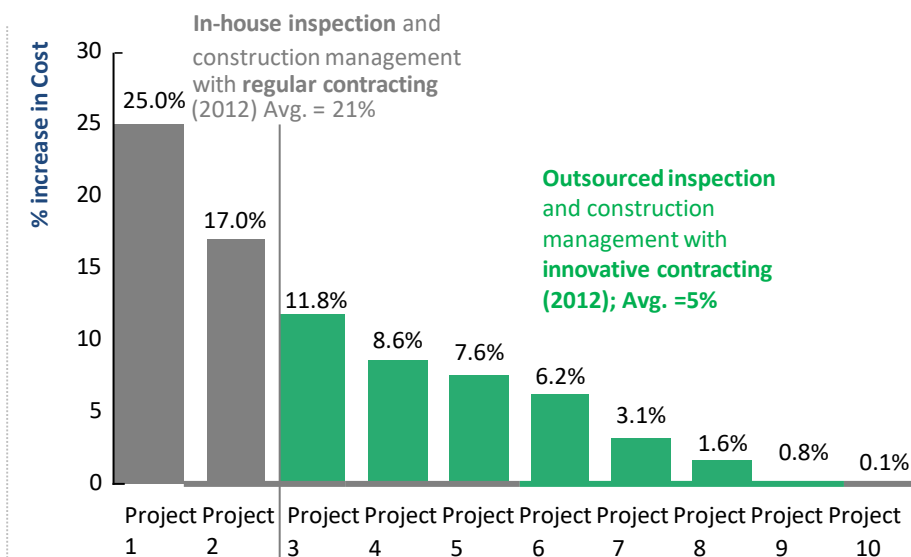
Outsourcing

- Increased flexibility to hire specialized support for projects
- Increased usage of value engineering
- Increased ability to scale staff to properly implement the funding
- Better aligned managers' incentives with on time/on budget project delivery

Innovative Contracting

- Streamlined RFP process (such as prequalified bidders), thus reducing process duration
- More competitive bidding process drove costs down
- Better structured contracts aligned incentives with project goals (e.g. early completion bonuses)

Sample PR-66 Project Results: Project Execution Methods Lead to Cost Differences²




Out of ten sample PR-66 projects in 2012, two projects used historical execution methods which resulted in 21% cost overruns. When innovative contracting and outsourcing was used, the projects averaged just 5% overruns. Over the course of the entire PR-66 project, cost overruns averaged 33.1%.¹

*** Note:** PR-66's Phase II results were successful in reducing costs and increasing project delivery speed. Such success is the target for HTA, and HTA will strive to achieve similar results where feasible during the Fiscal Plan period. Although HTA cannot recognize savings from innovative contracting methods in the current CIP for projects already contracted (i.e. RFP process is complete), HTA will be able to reduce costs through outsourcing and better project management on projects not yet contracted.

1 2016 Case Study on PR-66 base on published technical papers. González Quevedo, Sergio L., Effective Competitive Procurement and Financing with Innovative Contracting: The Solution to Transportation Infrastructure Construction, Operations and Maintenance in the 21st Century, Key Note Speaker in CRC 2016, June 2016

2 González Quevedo, Sergio L., J.J Fontán et al. Use of Hybrid bidding method for costs and risks reductions in highway construction. Construction Research Congress. 2016, pp. 759–769. 2016

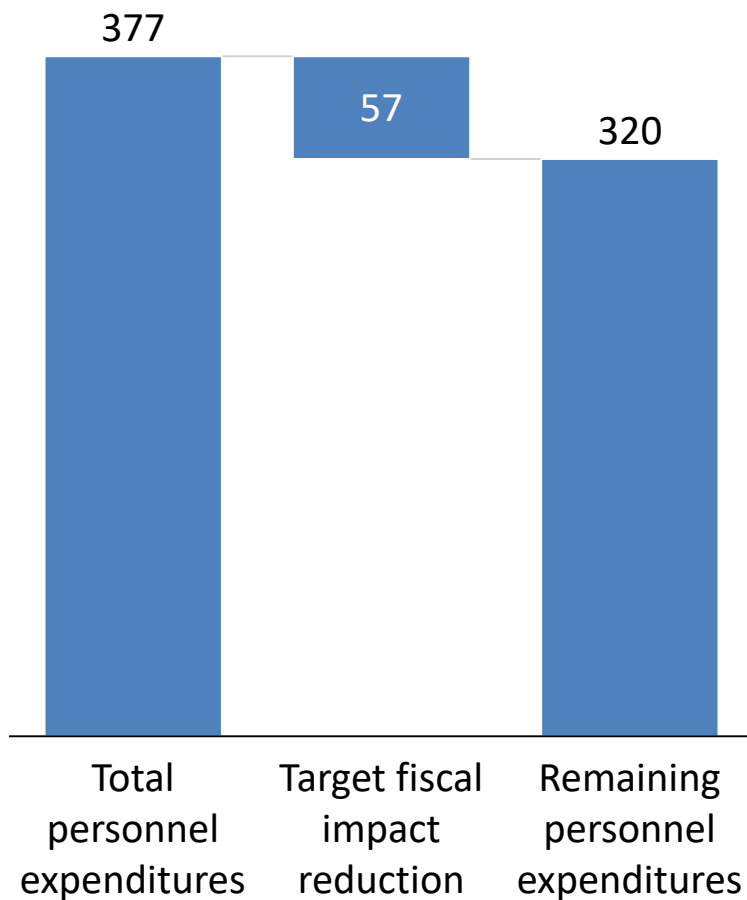
HTA has utilized multiple delivery methods and payment structures in the past, and plans to utilize those experiences to further improve delivery

	Utilization	Current challenges	 Improvement opportunities
Design-bid-build	<ul style="list-style-type: none"> Most commonly used method in PR for highway projects Unit price payment structure typically incorporated 	<ul style="list-style-type: none"> Quantity uncertainty has resulted in significant cost overruns and schedule delays Unbalanced bids producing cost overruns and schedule delays Contractors may not be incentivized by completion cost 	<ul style="list-style-type: none"> Improve project quantification during project scoping, and design stage Consider project risk transfer when selecting payment structure Evaluate hybrid payment structures when possible
Design-build	<ul style="list-style-type: none"> Utilized in late 90's for Carolina to Canovanas projects Contractor prequalification based on experience and financials 	<ul style="list-style-type: none"> Previous project financing utilized HTA municipal bonds Delivery method previously utilized for specific projects, current project pipeline limited Limited apparent recent utilization for project delivery 	<ul style="list-style-type: none"> Identify potential projects that could effectively utilize a design-build delivery (DB) method Right size volume of DB projects to increase competition Evaluate hybrid payment structure for optimal risk transfer
Public private partnership	<ul style="list-style-type: none"> P3s have been increasingly adopted for large scale, complex projects 	<ul style="list-style-type: none"> Need to explore further funding for P3 project opportunities Processes have taken longer and required more external support given potential complexity 	<ul style="list-style-type: none"> Identify project opportunities that would generate sufficient revenues to service debt Evaluate and optimize risk transfer during procurement Explore bundling a series of smaller projects into a potential program

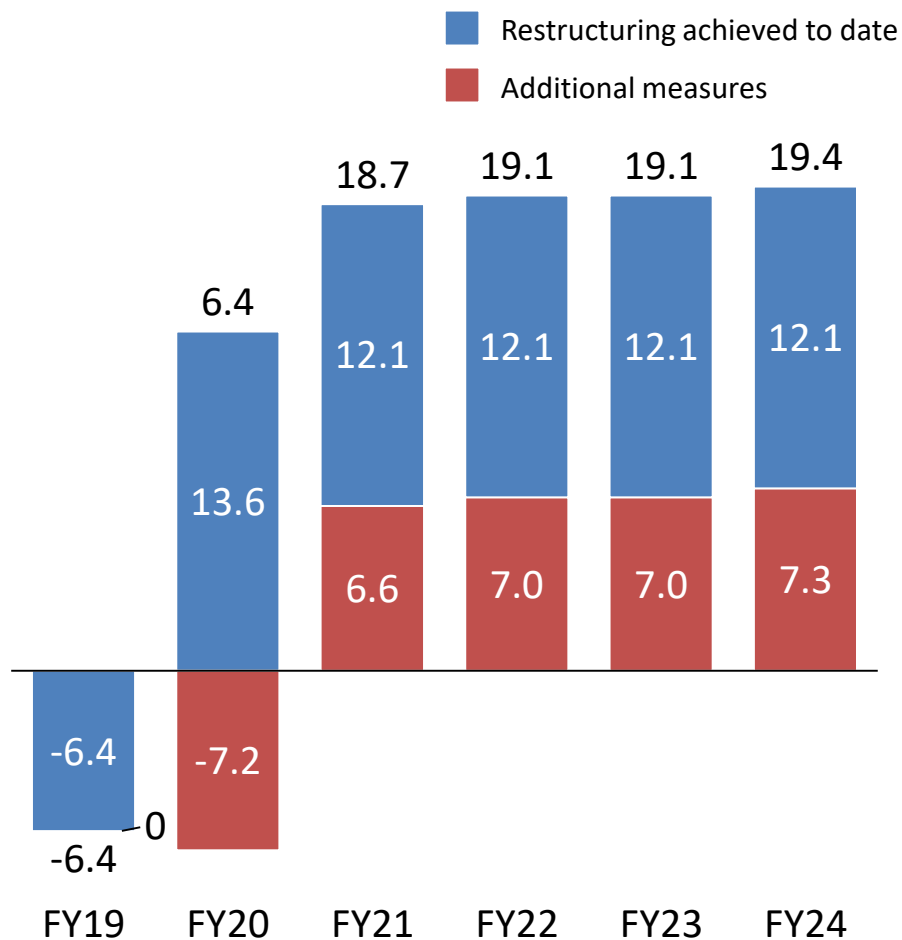
- HTA currently operates as an in-house infrastructure developer. Baseline roster of 1,283 employees has been reduced to 893 through the implementation of a Voluntary Transition Program launched on June 15th of 2018.
- HTA's headcount has not reduced commensurately with the reduction in construction investment. From 2004 to 2017, the compound annual growth rate of construction investment has declined by 10% while headcount has only declined by 4%.
- The organizational restructuring will include a workforce transformation that will align headcount with construction spend; aiding the transition to a lean, contract management organization. The transformed organization will have fewer internal staff and will provide opportunities for cost-effective outsourcing of various functions.
- The restructured HTA will:
 - Achieve efficiencies to allow for an effective program management
 - Adjust the organization to adequate size and provides flexibility to optimize resources to achieve future CIP or projects
 - Enhance functions and services to effectively meet best practices
- Historically, HTA's experience with outsourcing has been positive. Outsourcing has resulted in improved road conditions as well as reduced construction project duration and cost overruns, as demonstrated with HTA's experience with PR-22, and PR-66.
- HTA's operational transformation relies on the successful implementation of the workforce transition program
- HTA must meet the 15% Commonwealth wide personnel cost reduction target during the 6-year Fiscal Plan period. The method HTA chooses to reach these targets is still being developed, but the target will be enforced through PROMESA's budgetary approval process. The target may be met with further reduction in personnel, not from other areas of expenditure.
- HTA has already begun taking steps to comply with a Memorandum of Understanding ("MOU")¹ with the FHWA. The MOU's goals overlap with HTA's transformation to a contract manager from an in-house developer. Under the MOU, HTA is working to, among other things, streamline the project billing process, project delivery process, and contracting procedures. See Appendix B for further discussion on the MOU initiatives.
- HTA will further evaluate the current organizational structure and establish a new future state structure based on HTA's vision and the achievements of the Voluntary Transition Program

Organizational Restructuring is underway, with additional measures planned to achieve the overall fiscal impact target

Total personnel expenditure and fiscal target, FY19-24 \$M



Costs/Savings breakdown, FY19-24 \$M



Applying CW-wide pension reduction target of 10% yields \$14.1M in savings over the next 6 years

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\$M

		<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>
<u>Baseline</u>							
Non Construction	Pension: No PayGo	10,888	10,888	10,888	10,888	10,888	10,888
Non Construction	Pension: PayGo only	4,664	4,664	4,664	4,664	4,664	4,664
Construction	Pension: No PayGo	5,642	5,642	5,642	5,642	5,642	5,642
Construction	Pension: PayGo only	14,276	14,276	14,276	14,276	14,276	14,276
	Total PayGo	35,470	35,470	35,470	35,470	35,470	35,470
<u>Reduction</u>							
Non Construction	Pension: No PayGo			1,089	1,089	1,089	1,089
Non Construction	Pension: PayGo only			466	466	466	466
Construction	Pension: No PayGo			564	564	564	564
Construction	Pension: PayGo only			1,428	1,428	1,428	1,428
	Total Reduction	-	-	3,547	3,547	3,547	3,547

- HTA spends over \$15M a year on total employee benefits, mostly driven by costs associated with Private Health Insurance. These benefits are a critical part of the compensation of employees that is necessary to retain talent and motivate the HTA workforce.
- HTA is committed to continuing to provide its employees with high quality health care coverage without increasing co-pay expectations
- As a public corporation, HTA has the option to participate in the private insurance market in a manner similar to any private corporation in Puerto Rico. HTA is committed to exploring all options to manage and reduce costs of coverage while maintaining employee benefit levels.
- During FY20, HTA will explore opportunities to reduce costs while maintaining quality healthcare for its employees. HTA will save \$13.6M over 6 years by adopting the CW's uniform health policy at \$125 per employee per month, for employees without pre-existing conditions, and \$450 for all other employees.
- HTA plans to work with its current provider to negotiate improved terms, and will review option of other providers to achieve savings as is needed
- As necessary, HTA will solicit proposals from health insurance advisors to work on a contingency basis to explore options to develop customized private insurance options

In line with the CW Fiscal Plan, elimination of the Christmas bonus will yield \$2.7M in savings over the next 6 years

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\$ '000s							
	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>	<u>Total</u>
Non-construction	-	187	187	187	187	187	936
Construction	-	350	350	350	350	350	1,752
Annual impact	-	538	538	538	538	538	2,688

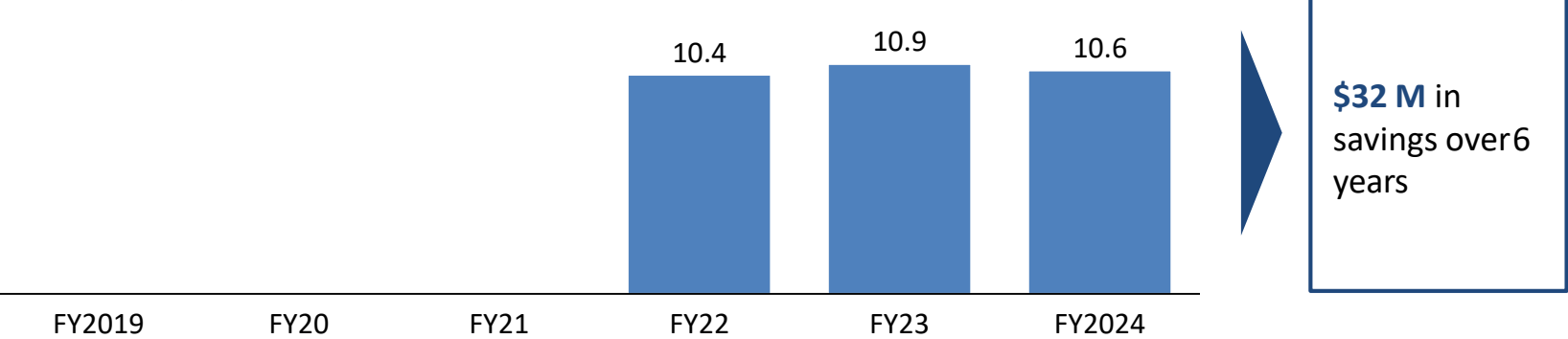
Background

- HTA’s operating budget includes major, long-term operating contracts, including those supporting transit, design and construction, and other long-term outsourced functions
- Many HTA contracts operate on longstanding contracts which have been extended or modified and are currently overpriced due to:
 - Not reflecting HTA’s current operating environment
 - Including fuel costs from earlier eras in which fuel costs were much higher
 - Pricing in risk of non-payment
- Contracts in many cases exceed cost benchmarks from reputable national data sets, past procurements, and other performance metrics

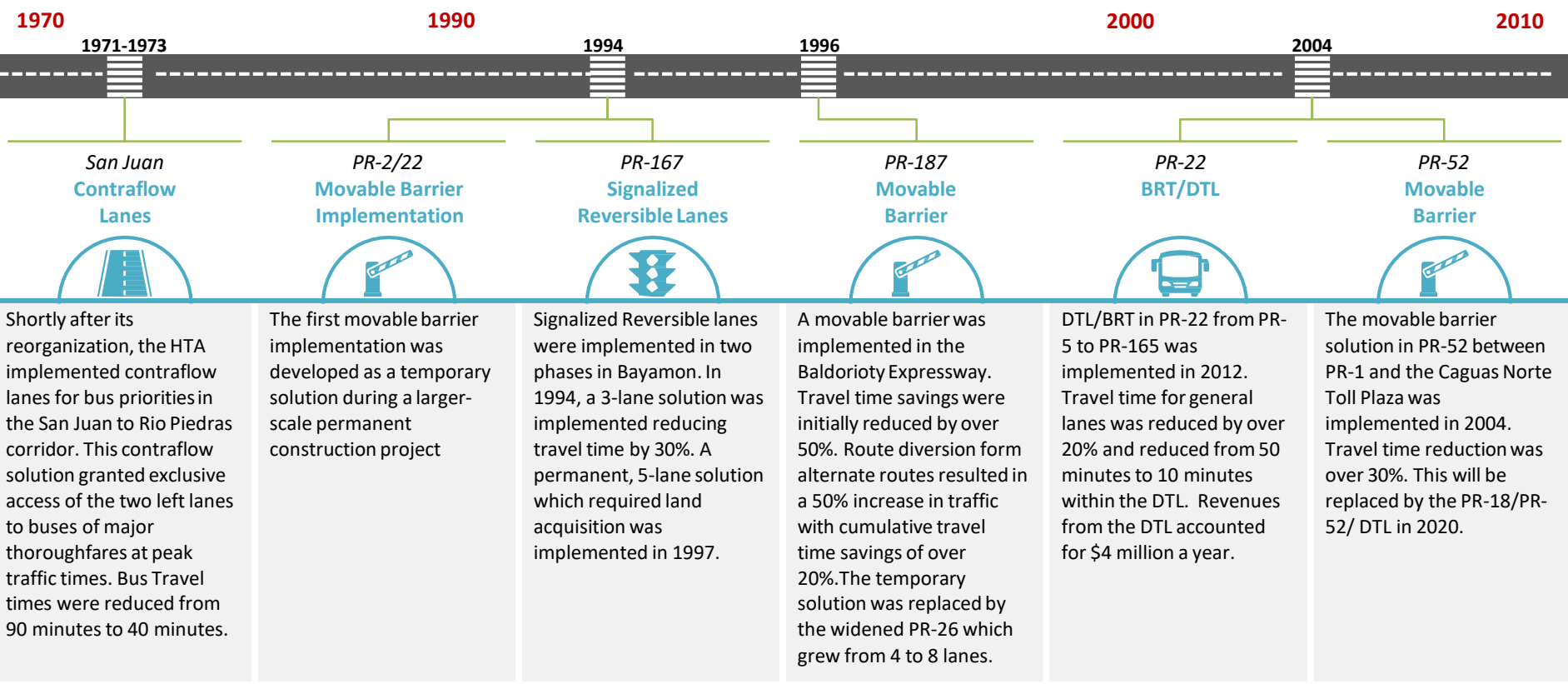
Proposed Changes

- In accordance with HTA’s status under Title III of PROMESA, HTA has sufficient leverage to request improved terms from individual contracting partners, or recomplete outdated contracts through solicitation
- As HTA’s financial operations improve under new leadership, and in accordance with FHWA MOU requirements and this Fiscal Plan, HTA will strengthen the case for reduced cost of risk
- HTA will re-compete contracts and negotiate with vendors to improve contract terms to reflect current circumstances

Costs/Savings, FY19-24 \$M



- Since its reorganization in the early 1970s, HTA has committed itself to congestion management-through new infrastructure projects. Specifically, HTA has been an innovator in the utilization of contraflow lanes, reversible lanes, and movable barriers for congestion relief.
- HTA has implemented various temporary solutions in situations when long-term construction would take too long, and permanent, flexible solutions where the latter have been necessary



San Juan incurs annual congestion costs of ~\$165M, with traffic spread across key highways and local 'hot spots'

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Congestion map of San Juan by delay and road type

Line width denotes amount of total delay hours along route



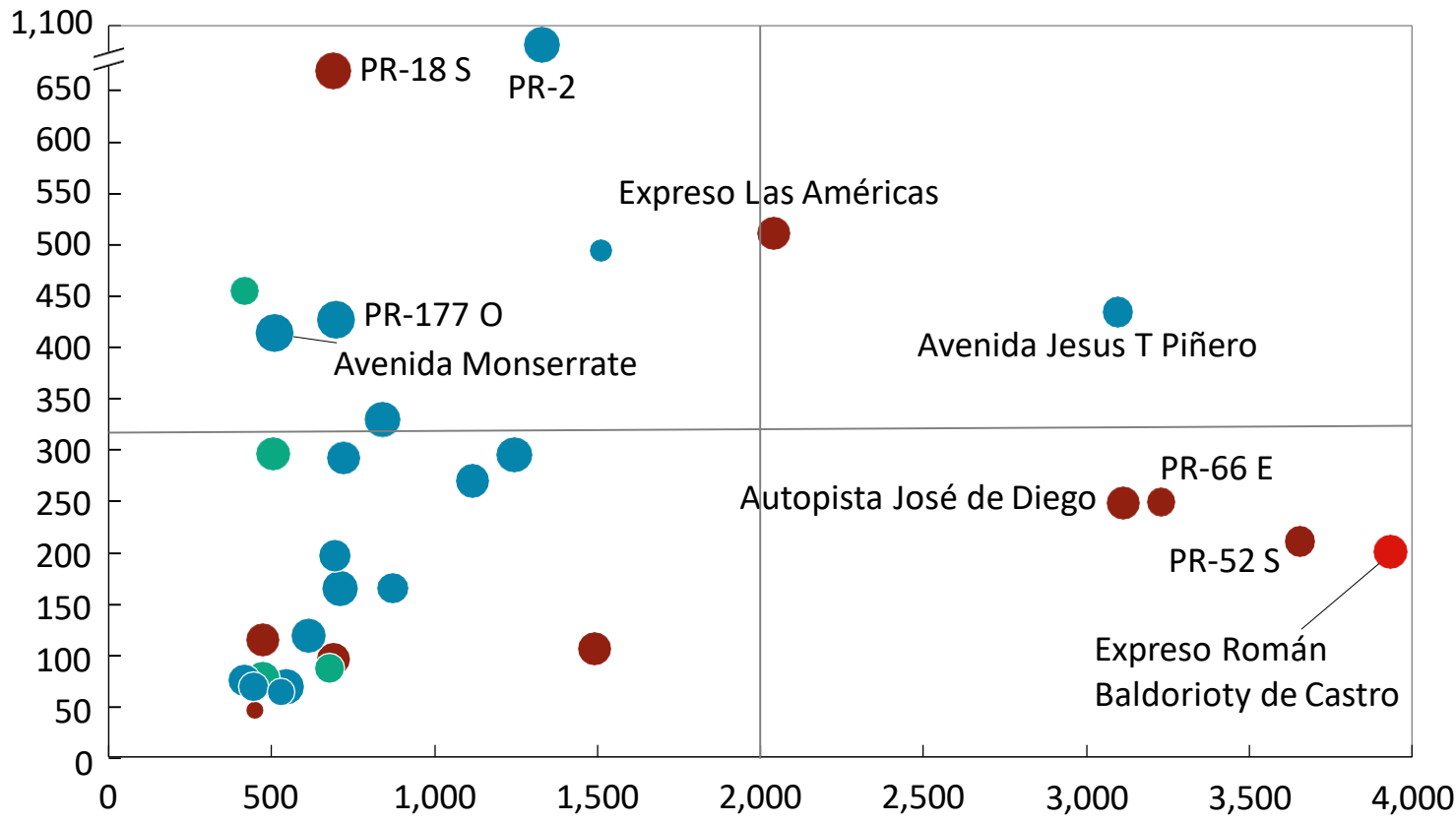
- San Juan incurs daily delays of ~54,000 hours on average, with an hour of delay valued at \$9.1¹
- Assuming 260 working days, and 75% congestion levels on non-working days, congestion cost is ~\$165M annually
- 52% of the delay is concentrated on 26% of roads in downtown San Juan (including feeders), with a delay intensity of 264 hours/mile compared to 193 hours/mile on average for minor road and arterials
- Highways contribute to 37% of the delay, despite being only 17% of the road length
- The 23 miles of inner highways in San Juan are a particular congestion management target: 10 congested miles with 399 delay hours per mile

- Highway - outer
- Highway - inner
- Major arterial
- Minor roads

¹ Assuming that an hour of excess fuel costs \$2.10 at vehicle fuel economy of 24.7, with traffic speed of 18 miles / hour during congestion, and assuming that value of time is half the median hourly wage (\$14)

Top target routes for congestion management include major highways such as PR-52, PR-66, and PR-18

Delay per mile, Hours/mile



- Highway Inner
- Highway outer
- Major Arterial
- Minor roads
- Delay Concentration
 - High
 - Low

HTA will implement high benefit-to-cost ratio solutions to manage traffic and positively impact economic recovery

Non-Recurring	Enhanced Incident Management	<ul style="list-style-type: none"> Improve efficiency of incident clearing by integrating services with Police and EMS on major roadways (e.g., PR-52 and PR-66 Traffic Management Centers – see following slides for details) Facilitate expedited incident clearance (towing, patch and debris clearing) in high traffic corridors (e.g., PR-18/26/30/52 Highway Service Patrol – see following slides for details)
	Implement Traveler Information Systems	<ul style="list-style-type: none"> Further Develop HTA's capability to provide real-time traveler information to major roadways in the San Juan – Caguas – Gurabo corridor, including: <ul style="list-style-type: none"> Install Additional Intelligent Transportation Systems (ITS) field devices Utilize real-time data to provide roadside messaging and alerts to the traveling public Utilize congestion data to inform future capital investments Improve traveler alert capabilities with the inauguration of HTA's traffic management center
Recurring	Improve Congestion Management Infrastructure	<ul style="list-style-type: none"> Invest in improvements to traffic signaling hardware and software (e.g., PR-52/18/30/1 intersection modernization) Invest in additional viaducts/tunnels to reduce congestion and to generate own-source revenues (e.g., San Antonio tunnel) Consider the expansion of lane control and dynamic merge control to ease congestion during peak travel hours and events Explore use of Active Traffic Management, including variable speed limits, shoulder use, and dynamic restrictions
	Electronic Toll Systems	<ul style="list-style-type: none"> Optimize toll collection systems to improve traffic flow on major toll roads, increase compliance and improve revenue capture Reduce reliance on toll plazas in favor of overhead tolling, decreasing labor costs and improving rate of travel
	Transit improvements	<ul style="list-style-type: none"> Expand transit coverage by creating BRT systems and increasing feeder links to HTA (e.g., BRT line from Caguas to the TU Centro Medico Station – see following slides for details)

In addition, HTA continues to prioritize projects to maximize economic impacts - both those with direct benefits to HTA and also to the Commonwealth more generally - associated with traffic reduction, including travel time, vehicle operating costs, accidents, and emissions

Annual Economic Impact of Traffic Reduction Projects

	PR-52 Intersection	PR-26 Info. Traveler Sys.	Traffic Mgt. & Service Patrol	Total
Annual Person-Hours Saved	3.2	0.2	0.7	4.1
Itemized Inputs (mil. \$)				
Travel Time Savings	\$ 21.1	\$ 1.3	\$ 4.7	\$ 27.1
Veh. Op. Cost Savings	\$ 18.4	\$ 0.4	\$ 1.5	\$ 20.3
Accident Cost Savings	\$ 5.9	\$ 0.4	\$ 1.3	\$ 7.6
Emission Cost Savings	\$ 2.5	\$ 0.2	\$ 0.6	\$ 3.2
Total Benefits	\$ 47.8	\$ 2.3	\$ 8.1	\$ 58.2

PR52 estimates based on Metric Engineering Cost-Benefit Analysis Study, general assumptions of ~\$7 per lost hour in traffic (half of median wage) and excess fuel costs of \$2.1 at vehicle fuel economy of 24.7, with traffic speed of 18 MPH.

Background

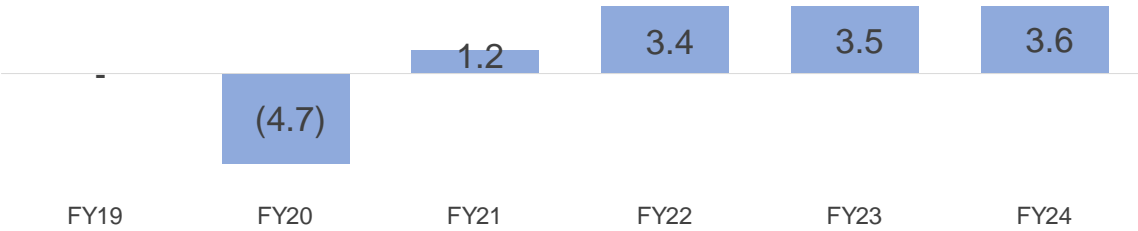
- HTA places congestion relief as a priority within its Capital Improvement Plan, targeting reductions in travel time, emissions, and congestion-related accidents. Some priority CIP projects can support revenue generation
- HTA currently operates the Caguas-to-San Juan stretch of PR-52 as a toll road on a flat fee basis
- HTA has received FHWA project funding to support develop Dynamic Toll Lanes (DTL), and construction is scheduled to be completed in FY21
- HTA will establish a workday Bus Rapid Transit (BRT) line from Caguas to the TU Centro Medico station providing a more-convenient option for reaching the TU network, offsetting roughly 39% of the BRT operating costs
- The new DTL will also allow efficient travel for BRT buses, presenting the opportunity to provide congestion relief while generating additional revenue

Revenue Generation Opportunities

- HTA will operate the Bus Rapid Transit Networks operating at an estimated 39% farebox recovery ratio, exceeding local bus operation standards, and supporting ridership growth for Tren Urbano
- HTA will implement Dynamic Toll Lanes within the PR-52 Caguas BRT corridor to provide congestion relief, while generating additional toll revenue

	FY19	FY20	FY21	FY22	FY23	FY24	Total
BRT	0.0	0.0	0.0	(0.8)	(0.8)	(0.8)	(2.4)
DTL	0.0	0.0	2.8	5.6	5.8	6.0	20.2
Signal Optimization	0.0	(4.7)	(1.5)	(1.5)	(1.5)	(1.5)	(10.8)
Total	0.0	(4.7)	1.2	3.4	3.5	3.6	7.0

Costs/Savings, FY19-24 \$M



\$7.0 M in Savings over 6 years.

- HTA continues to invest in congestion management through innovative technology and key infrastructure investments. HTA recognizes that effective congestion management will contribute to Puerto Rico’s economic recovery.
- HTA prioritizes congestion management within Capital Improvement Programs based on cost/benefit analysis which include economic impact on a project-specific basis, but has not conducted the econometric studies required to estimate impact on the Island’s overall GNP.



PR-52 Traffic Management Center

Estimated Completion

July 2019

PR-52 Traffic Management Center

Collect incident and traveler information and marshal resources to manage congestion

- Facility will house EMS, Police of P.R., HTA – Traffic Management and Freeway Operations, and Public Services Center
- Center will continue data collection practices in place since Jan 2016
- 100% Federally Funded

PR-66 Integrated Traffic Incident Management Facility

Facilitate quicker responses to incidents

- Facility will house EMS, HTA, Police of P.R., and Public Services
- 100% Federally Funded

August 2019

PR-18/26/30/52 Highway Service Patrol

Expedite resolution of roadway incidents safely

- Implementation limited by independent contractors and regulatory issues
- Phase 1 started April 2017; Phase 2 (for PR-1/2/20) underway

Implemented

PR-52/18/30/1
Intersection
Modernization
Congestion
Managed Lanes
Dynamic Tolls
Reversible
Lanes

Reduce congestion in major intersection in Caguas, enable public transportation and lane capacity management through variable toll rates

- \$148 M total investment in traffic reduction, funded with regular Federal funds. An Infrastructure for Rebuilding America (INFRA) discretionary grant of \$118M is currently pending. HTA is not currently considering this grant in its baseline projections, but if the grant is receive it would allow for redirection of resources to other projects.
- The DTL project facilitates PR-52 Bus Rapid Transit Implementation
- Phases I-III (PR-52/18/1) Replaces and improves Reversible Contraflow Lane Replacement providing two lanes with shoulders up to PR-18
- Phases III-V (PR-52/30/1) Bridge Construction (connecting PR-52 and PR-30) for congestion management lanes, facilitating seamless transfer from highway to high-traffic surfaceroad

Estimated
Completion

Sep.2020
(Phase I-III)

Apr. 2021
(Phase III-V)

PR-26 ITS Devices
and Traveler
Information

Install Intelligent Transportation System(ITS) Devices to gather traveler information

- Closed Circuit Television (CCTV) cameras; Bluetooth (travel time and origin/destination); Microwave Vehicle Detection Systems (MVDS) (speed and volume); Fiber Optics; and Dynamic Message Signs (DMS) (traveler communication) – a first in Puerto Rico

June 2019

Congestion
Management
Completion
Timeline
(select initiatives)



Reversible Contraflow Lane
(PR-18)



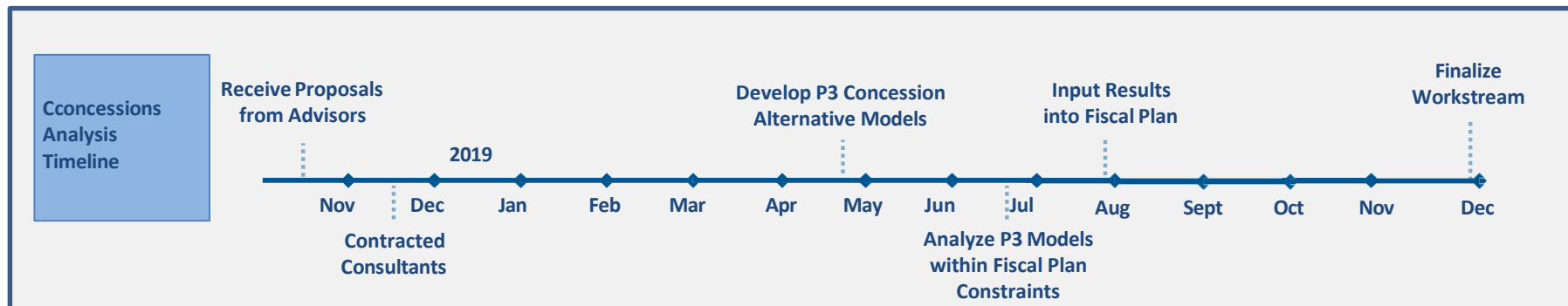
Highway Service Patrol
(PR-18, 26,30, 52)



PR-26 ITS Devices



PR-66 Integrated
Incident Management Center



Initial scoping of opportunities

PR-20, PR-52, PR-52 and PR-66 identified as candidates. Analysis to be undertaken that considers if standalone asset approaches or bundling of assets (similar to PR-5 & PR-22 concession) is more beneficial.



Development of qualitative and quantitative framework

Options to consider include a concession sale for upfront payment, retention of revenues through various models include an availability payment, simple outsourcing of operations and/or maintenance. Will quantitatively assess items such as capex funding, tolling regime, risk sharing, and operating efficiencies.



Development of baseline capex improvements to bring each asset to steady state and baseline opex profiles to compare across network



Building shadow bid model and public sector comparator to determine impacts of various assumptions on opportunity viability



Efficient operations and maintenance by the private sector



Private-sector participation could bring about **innovation in O&M such as the use of advanced technology**, e.g., weight-in motion systems to ensure cost-effective and foolproof O&M, since the concessions are **typically long-term agreements which incentivize operators** to use technology

Reduction in toll violations



Private players have the **incentive to minimize toll violations** as it directly impacts their own cash flows, and could **build on the toll collection optimization measures** in the Fiscal Plan (see previous slides on Toll Collection Optimization measure)

Capital inflow to the government



Concessions can help generate upfront capital for the government, and can help **create bandwidth in the government to focus more on developing greenfield projects**

A variety of concession structures, such as a revenue share agreement, could potentially achieve similar efficiencies as a single lump sum concession depending on precise deal terms, including the use of proceeds

Opportunity to attract private sector investments



Many institutional investors, such as pension funds, insurance funds and sovereign wealth funds, are increasingly investing in infrastructure assets as:

- Such investments **match their long-term investment horizon** and help them hedge against inflation
- Since these toll roads are operational, there is **lesser risk** in investing in these assets compared to greenfield projects

Tren Urbano has historically underperformed on revenue, with budgeted FY19 operating costs of \$67M exceeding several-fold the planned revenues of \$9M. HTA must explore P3s and other partnership opportunities to increase ridership and capture last mile opportunities

HTA expects that the specific cost transformation opportunities identified within this plan account for the vast majority of cost reduction opportunities currently available, however HTA will continue to explore innovative ways to reduce costs, including:

Additional Operations Optimization	Assess post-transformation workforce and contracting model, and identify areas for improvement and savings
Workforce modeling, hours and overtime control	Associate workload drivers with each remaining FTE and develop zero-based staffing model to justify positions, hours, and overtime. Improve controls to reduce excess hours and eliminate overlapping positions.
Procurement Modernization	Identify opportunities to consolidate purchasing across categories and use collaborative purchasing to leverage market power to pursue discounted prices from vendors not yet addressed through contract re-bid and optimization. Improve controls over operating contracts to improve collection of contractor and concessionaire penalties.
Enhance Internal Controls	Continue efforts begun in compliance with MOU requirements to develop best-in-class internal controls over contracting, employee expenses, and other categories of operating expenses not yet optimized within fiscal measures
Optimize Construction Value Chain	<p>Along with the MOU initiatives, HTA plans to identify opportunities to optimize the construction process (which would also be complemented by workforce transition and organizational structure initiatives). These include:</p> <ul style="list-style-type: none">Pre-construction: Develop standardized decision tree to apply to the project bidding process in order to maximize competition among pre-qualified bidders. Develop best practices for contracting, such as standard term sheets to ensure consistent delivery.Construction: Identify detailed short term and long term construction projects that should be outsourced to third party expertsQuality assurance: Develop a quality assurance plan which includes standard procedures on appropriately adding incentive clauses to contracts in order to ensure contractors' goals are aligned with HTA's goals
Identify TU revenue growth opportunities	<p>Explore other opportunities for TU revenue growth, e.g.,</p> <ul style="list-style-type: none">Upzoning areas near TU stations (dense residential / commercial) and downzoning other areasExtending system network coverage through BRTBuilding out the farecard network (e.g., HK's Octopus)

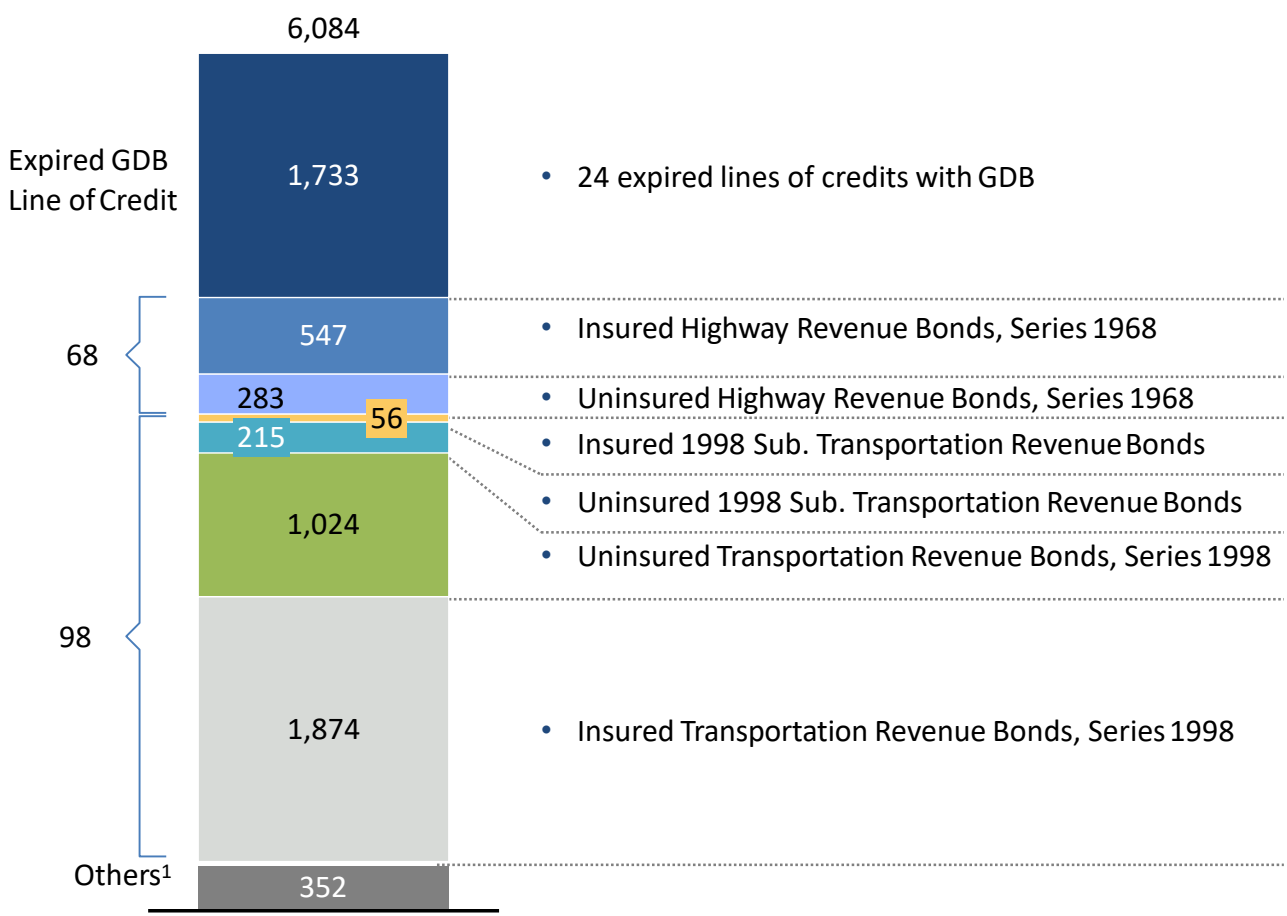
VI. LIQUIDITY SITUATION

13-Week Cash Flow

	Actual (Act.) / Projected (Fct.):	Week #: 32 Act.	33 Act.	34 Act.	35 Act.	36 Act.	37 Act.	38 Act.	39 Act.	40 Act.	41 Act.	42 Act.	43 Act.	44 Act.
(\$000's)	Week Ended:	2/8	2/15	2/22	3/1	3/8	3/15	3/22	3/29	4/5	4/12	4/19	4/26	5/3
Operating Receipts														
1 Toll Fares	-	6,124	2,110	1,545	3,099	1,876	2,075	1,494	-	4,435	1,789	3,415	-	-
2 Transit Revenues (Refer to Note C below)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 Electronic Toll Fines	105	37	53	87	70	61	72	23	79	40	50	17	74	-
4 Other Income	39	153	357	275	399	74	843	52	203	97	8	147	1,600	-
5 Total Operating Receipts	\$144	\$6,314	\$2,520	\$1,907	\$3,568	\$2,011	\$2,990	\$1,569	\$282	\$4,572	\$1,847	\$3,579	\$1,674	-
Intra-Government Receipts														
6 Transfer from Government of PR	-	-	-	-	8,108	-	-	-	8,108	-	-	-	-	8,108
7 Special State Grant	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8 PR Gov. Infrastructure Funding	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9 Total Intra-Government Receipts	-	-	-	-	8,108	-	-	-	8,108	-	-	-	-	8,108
Other Receipts [Separate Federal Transfers by Program]														
10 Federal Aid - FHWA & Earmarked Projects	2,676	1,751	2,447	-	1,876	1,506	1,484	-	8,085	1,474	9,813	1,282	6,120	-
11 Federal Aid - FTA (Sec. 5307 & Sec. 5309)	-	30	-	22	-	373	19	-	1,732	-	2,033	-	-	-
12 Emergency Reconstruction Program - FHWA	-	-	-	2,777	2,756	-	1,001	-	-	-	-	-	387	-
13 Emergency Reconstruction Program - FEMA	-	-	-	-	-	-	-	-	-	89	-	-	-	-
14 Emergency Reconstruction Program - FTA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15 Total Other Receipts	2,676	1,781	2,447	2,799	4,632	1,879	2,504	-	9,817	1,563	11,846	1,282	6,507	-
16 Total Receipts	\$2,820	\$8,095	\$4,967	\$4,706	\$16,308	\$3,890	\$5,494	\$1,569	\$18,207	\$6,135	\$13,693	\$4,861	\$16,289	-
Operating Disbursements														
17 Nomina y Costos Relacionados	98	1,366	201	1,934	550	1,958	155	1,518	1,018	1,251	118	1,940	241	-
18 Retirement Contributions (PayGo)	-	-	-	2,466	-	-	-	2,900	-	-	-	2,531	-	-
19 Christmas Bonus	-	-	1	-	-	-	-	-	-	-	-	-	-	-
20 Facilidades y Pagos por Servicios	-	799	-	-	10	658	364	947	74	18	69	602	-	-
21 Servicios Comprados	1,386	161	1,588	74	317	123	9,213	1,117	3,667	82	145	988	3,617	-
22 Donativos	-	-	-	515	-	-	-	607	-	-	-	511	-	-
23 Transportacion	56	-	28	-	88	-	92	2	49	-	72	-	80	-
24 Servicios Profesionales	45	54	96	-	114	204	1,047	117	422	280	88	369	325	-
25 Otros Gastos Operacionales	-	14,039	14	3	9	386	37	2	1,093	144	15	6	3	-
26 Anuncios	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27 Total Operating Disbursements	\$1,585	\$16,419	\$1,928	\$4,992	\$1,088	\$3,329	\$10,908	\$7,210	\$6,323	\$1,775	\$507	\$6,947	\$4,266	-
Capex Disbursements														
28 Mejoras Permanentes Federal	3,596	4,161	2,642	193	2,664	1,547	2,007	21	6,338	122	7,237	2,271	5,888	-
29 Mejoras Permanentes Estatal	689	2,579	2,640	2,925	6,115	3,171	1,342	1,939	3,133	5,551	717	3,097	2,273	-
30 Emergency Reconstruction Program	-	-	-	3,117	3,220	330	611	-	356	2,098	-	-	387	-
31 Total Disbursements	\$5,870	\$23,159	\$7,210	\$11,227	\$13,087	\$8,377	\$14,868	\$9,170	\$16,150	\$9,546	\$8,461	\$12,315	\$12,814	-
32 Net Cash Flow	(\$3,050)	(\$15,064)	(\$2,243)	(\$6,521)	\$3,221	(\$4,487)	(\$9,374)	(\$7,601)	\$2,057	(\$3,411)	\$5,232	(\$7,454)	\$3,475	-
Unrestricted Bank Cash Balance Roll-Forward														
33 Beginning Cash Balance	\$385,317	\$385,912	\$370,600	\$368,377	\$362,828	\$365,480	\$360,990	\$351,835	\$343,527	\$345,474	\$338,003	\$347,308	\$339,866	-
34 Net Cash Flow	(3,050)	(15,064)	(2,243)	(6,521)	3,221	(4,487)	(9,374)	(7,601)	2,057	(3,411)	5,232	(7,454)	3,475	-
35 Other Inflows (Refer to Note A below)	3,669	-	21	1,001	7	-	220	20	6	5	4,079	12	6	-
36 Other Outflows (Refer to Note B below)	(24)	(248)	(1)	(29)	(576)	(3)	(1)	(727)	(116)	(4,065)	(6)	-	(4)	-
37 Ending Bank Cash Balance	\$385,912	\$370,600	\$368,377	\$362,828	\$365,480	\$360,990	\$351,835	\$343,527	\$345,474	\$338,003	\$347,308	\$339,866	\$343,343	-

VII. DEBT SUSTAINABILITY

Current debt structure, USD millions



1 Outstanding bond estimates as of Fiscal Year End 2017 based on a Bloomberg data extract. 1 Other Includes: \$200M in Variable Rate Bonds, \$57M in CPI based interest-rate bonds, \$.7M in LIBOR based interest rate bonds maturing through 2045, \$93M in Capital Appreciation Bonds maturing through 2026. DGB line of debt based on HTA management estimates.

Debt Sustainability post-measures

USD millions

- HTA has had insufficient cash flows to service its debt, and entered Title III in May 2017. It has not made payments since July 2017
- However, post the expected Commonwealth CAPX funding, transfer from Government of PR, and the incremental positive cash flows of fiscal plan measures, HTA will have \$493 M cash flow as a surplus available through the Fiscal Plan Period for strategic projects and / or debt service.

\$ in millions	FY19	FY20	FY21	FY22	FY23	FY24	FY19-FY24 Total
Operating Revenues	742	761	797	806	814	824	4,744
Capital Contributions	345	619	426	419	302	252	2,363
Retained Revenues to Central Government	(579)	(584)	(581)	(581)	(582)	(583)	(3,491)
Revenues net of Retained Revenues	508	796	642	644	534	492	3,616
Total operating and CIP expenses	(617)	(872)	(743)	(762)	(605)	(533)	(4,131)
Total Fiscal Gap Post-Measures, net of Rev Retention & Gov. Funding	(109)	(76)	(101)	(118)	(70)	(40)	(515)
Transfer from Government of PR	97	-	222	238	225	225	1,008
Cash Flow Available Post-Measures and Govt. Transfer	(12)	(76)	121	120	154	185	493

- The following matrix illustrates, for varying coupon levels and primary surplus, or net revenue, figures, the amount of restructured HTA debt that could be supported by that surplus level.
- The matrix assumes a 30-year, level debt service payment structure and only one-time coverage of net revenues to debt service.

Illustrative Cash Flow Available		Sensitivity Analysis: Implied Debt Capacity at 1.0x Coverage			
		\$25	\$50	\$75	\$100
Sensitivity Analysis: PV rate %	4.0%	\$432	\$865	\$1,297	\$1,729
	5.0%	\$384	\$769	\$1,153	\$1,537
	6.0%	\$344	\$688	\$1,032	\$1,376

Values in USD millions

VIII. IMPLEMENTATION PLAN

Create a comprehensive Transformation Plan to enable HTA to effectively operate under current fiscal constraints, optimize revenue and expenses with consideration of macroeconomic, socioeconomic and environmental impacts, and to exit Title III status, while providing high-quality management of Puerto Rico’s integrated highway network to benefit its users / residents

Structure

- **Specialized roads and transit authority** with enhanced governance, expert leaders, and a mission to sustainably improve roads and infrastructure
- **Lean entity to efficiently and sustainably deliver roads and infrastructure mission** without internal rigidities

Revenue

- **Optimized toll roads** with socio-economic and environmental impact of tolling and pricing considered
- **Real estate assets identified & monetization options considered** to provide cash flows for reinvestment
- **Federal funds maximized**, existing and future transit projects optimized to achieve higher farebox recovery
- **Concessions considered for all optimized assets** including as an implementation mechanism that maintains adequate funding for the integrated highway network

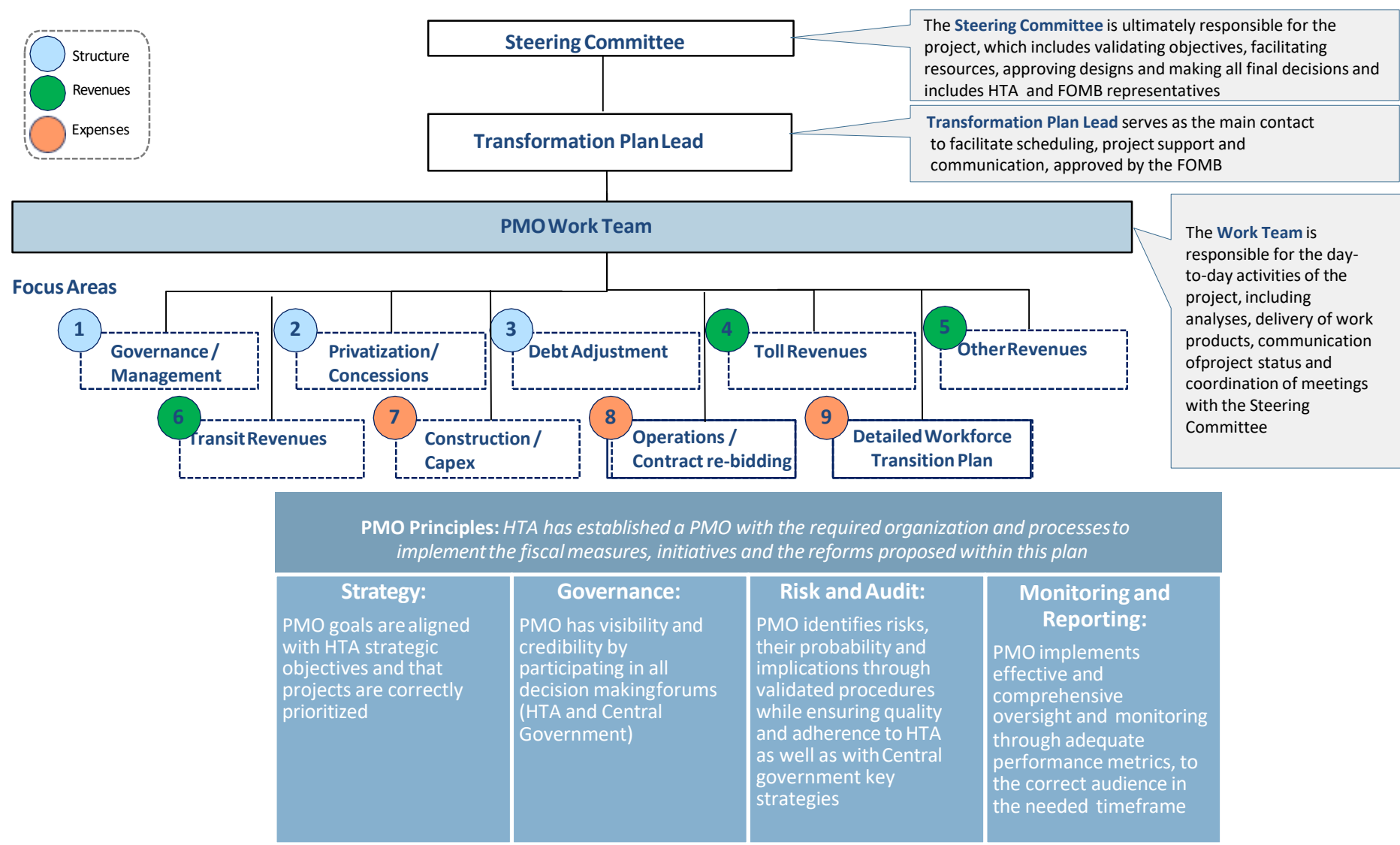
Expenses

- **Scale workforce to meet current needs, and pursue cost-effective outsourcing and margin optimization** to right-size opex and generate cashflows
- **Optimized** construction value chain, renegotiated operating contracts, and outsourced project-specific functions

Pursue guiding principles to address the financial gap and re-focus HTA toward its objectives

Establish an efficient organization	<ul style="list-style-type: none"> Transform HTA into an organization in which resources are aligned to critical objectives and scale appropriately to available resources and planned investments Engage best resources efficiently to move HTA agenda forward in a fiscally sustainable manner
Demonstrate capacity to implement	<ul style="list-style-type: none"> Demonstrate capacity to implement reconstruction capex, STIP, and CIP Clear implementation plans, with milestones and metrics monitoring progress of all fiscal measures and structural reforms Transformation office with stakeholder representation and clear ownership and leadership structures defined
Improve infrastructure towards new standards	<ul style="list-style-type: none"> Focus infrastructure program on maintaining and improving existing road networks and mitigating congestion Implement data-driven process for project selection and prioritization based on asset condition, and safety Embrace best-in-class approaches for congestion relief (see previous slides on congestion management (measure 13)) Maximize deployment of federal funds and utilize toll credits to receive highest-possible federal share
Reach a sustainable debt structure	<ul style="list-style-type: none"> Obtain a sustainable debt structure to allow for provision of services and realistic economic growth infrastructure Evaluate new funding structures used in other jurisdictions
Improve project delivery effectiveness	<ul style="list-style-type: none"> Streamline project delivery and improve project times from planning to completion through better project management, innovative contracting (e.g., CHICA¹, ratings/bonuses), and contract structures (adequately allocate risks) Maintain compliance with FHWA MOU and demonstrate improved project performance management Improve internal controls and integrate lessons learned into ongoing and new projects
Sustain Financial Control Reform	<ul style="list-style-type: none"> Establish a zero-based budget approach and develop the tools and culture required to sustain it Implement procurement process reform to improve timeliness, accountability, and cost-control
Strengthen partnership with federal agencies	<ul style="list-style-type: none"> Maintain strong communication with FHWA & FTA, and move HTA forward towards full federal compliance Remedy non-compliance identified in 2016-2018 Single Audit Reports Communicate Fiscal Plan to federal agencies and work together towards sustainable solutions Engage proactively with FHWA & FTA to re-position HTA as a first-class federal grantee and infrastructure developer

¹ CHICA contracts are hybrid contracts with contingencies and acceleration clauses



Summary Implementation Timeline

Certified Fiscal Plan Submitted

- Detailed Fiscal Plan consisting of:
 - Initiatives and steps of progression
 - Timeline of implementation and expected goals for Fiscal Measures
 - High-level milestones

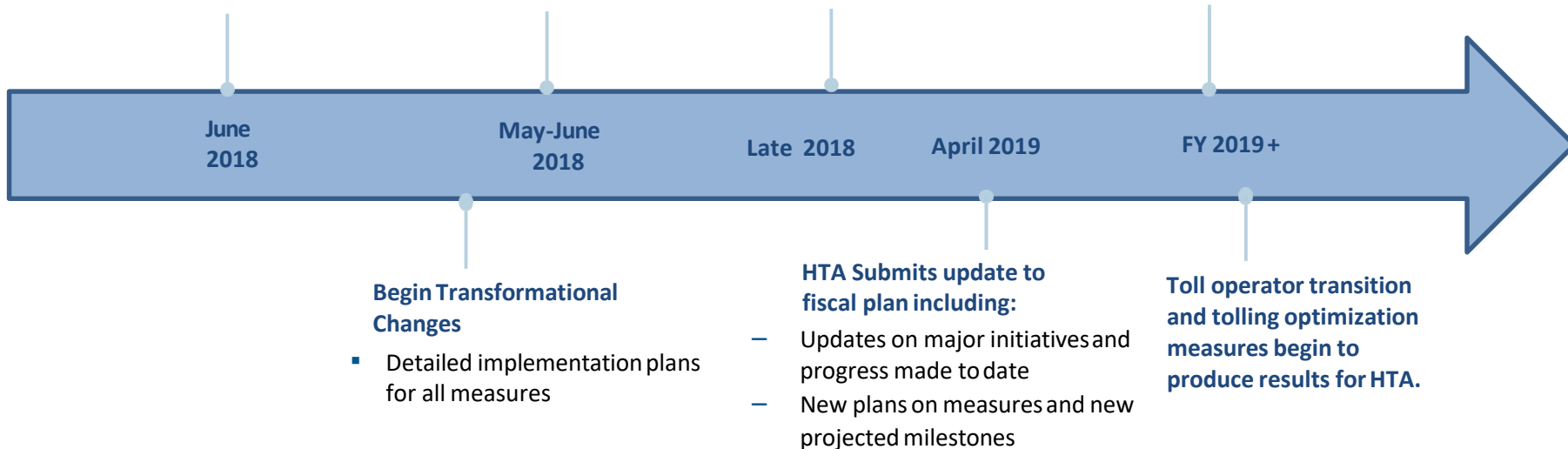
Begin major initiatives, including

- Outsourcing
- Workforce Transition
- Concessions

Bus Contract Rebid begins to produce savings for HTA

Maintain Momentum

- Realize results to build-in additional internal and external stakeholder buy-in critical for sustained change



Post-certification reporting

Financial Reporting

Post-certification reporting requirements			
Report type	Detail	FOMB reporting cadence	Public reporting
Budget to actuals¹	<ul style="list-style-type: none"> Tracking budgeted to actual cash flow per budget certification agreements with FOMB package, including: <ul style="list-style-type: none"> Explanation for material variances (>10% and >\$1 million or >\$10 million) Material delays (>1 quarter) in project planning and delivery cost allocations based on STIP/CIP implementation schedule Revenues and additional funding procured in excess (>10%) of budgeted amounts 	<ul style="list-style-type: none"> Monthly Quarterly 203 reporting 	<ul style="list-style-type: none"> Monthly
Liquidity	<ul style="list-style-type: none"> 13-week cash flow report including: <ul style="list-style-type: none"> Accounts payable and accounts receivable roll-forwards 12 common weeks analysis to track material changes Monthly bank balances with breakdown of restricted / unrestricted cash (incl. obligated funds) 	<ul style="list-style-type: none"> Monthly 	<ul style="list-style-type: none"> Monthly
Initiatives	<ul style="list-style-type: none"> Refine high-level implementation plans for measures and submit within three months Track planned vs. actual expenditure / savings on fiscal measures 	<ul style="list-style-type: none"> Monthly 	<ul style="list-style-type: none"> Monthly

¹ The Revised Fiscal Plan must be the basis for the Certified Budget for FY20, including full implementation of all measures described for that fiscal year, incorporation of any incremental budget changes included in the Fiscal Plan, and any investments described in the Fiscal Plan. The Certified Budget must include the same level of specificity as specified in the FY20 budgetary process by budget line-item on sources and uses of funds by fiscal year. The Certified Budget must also provide additional detail on the types of funds used to cover expense categories (e.g., general fund, federal funds, special revenues, own revenues). Finally, the Certified Budget must include additional detail as necessary to track impact of fiscal measure implementation (e.g., Christmas bonus, pensions and health benefits separated from Salary and related benefits, professional services fees, etc.)

Post-certification reporting

Income, expenses, and balance sheet

Post-certification reporting requirements (to continue on monthly reporting plan)

Report type	Detail ¹	FOMB reporting cadence	Public reporting
Revenues	<ul style="list-style-type: none"> ▪ Toll revenues and traffic volume by toll road ▪ Toll fine collections and violations ▪ Tren Urbano fares and ridership ▪ BRT fares and ridership 	▪ Monthly	▪ Monthly
Operating expenses	<ul style="list-style-type: none"> ▪ Changes in headcount (i.e., opening, additions, exits, closing) ▪ VTP III results ▪ Toll transition financials (i.e., bids for capex, operator cost, final contract sum) ▪ Professional services fees 	▪ Monthly	▪ Monthly
Balance sheet	<ul style="list-style-type: none"> ▪ Statement of assets, liabilities and equity, including but not limited to the following line items: <ul style="list-style-type: none"> – Cash and cash equivalents – Accounts receivable – Prepayments – Investments – Restricted assets – Capital assets – Concession assets – Accounts payable – Pension liabilities – Contingent liabilities – Bonds payable 	▪ Monthly	▪ Monthly

¹ Refer to implementation plans. Implementation plan are high-level and meant to be refined, finalized and submitted to FOMB within 2 months of certification. Implementation plan development and progress against post-certification reporting requirements will be supervised and monitored by the FOMB.

Post-certification reporting

Pre-Construction and Construction Reporting for CIP

Post-certification reporting requirements

Report type	Detail ¹	FOMB reporting cadence	Public reporting
Pre-Construction Reporting	<ul style="list-style-type: none"> Existing pre-construction reporting template includes information on bid dates and NTP dates, as well as basic project-identifying and cost information New reporting template will add information on projected and actual award date as well as more identifying detail about the projects in question 	<ul style="list-style-type: none"> Monthly reporting of projects in the bid process awaiting construction CIP team has committed to roll out new reporting starting April 15, 2019 	<ul style="list-style-type: none"> N/A
Construction Reporting	<ul style="list-style-type: none"> Existing construction reporting template includes detailed information on project timing and completion projections as well as cost changes Updated construction reporting template will add information on project performance and metrics, projected project disbursements by quarter, and detailed project identifying information 	<ul style="list-style-type: none"> Monthly reporting of projects under construction CIP team has committed to roll out new reporting starting April 15, 2019 	<ul style="list-style-type: none"> N/A
ER Program	<ul style="list-style-type: none"> Monthly list of active construction and pre-construction projects and disbursements 	<ul style="list-style-type: none"> Quarterly 	<ul style="list-style-type: none"> N/A
Public project reporting	<ul style="list-style-type: none"> List of active projects across all program types (i.e., Federal, State, ER, EFL) and progress completed during the month (e.g., lane-miles paved, % of work certified) with key project information 	<ul style="list-style-type: none"> Monthly 	<ul style="list-style-type: none"> Monthly

¹ Refer to implementation plans. Implementation plan are high-level and meant to be refined, finalized and submitted to FOMB within 2 months of certification. Implementation plan development and progress against post-certification reporting requirements will be supervised and monitored by the FOMB.

Post-certification reporting

FHWA performance reporting

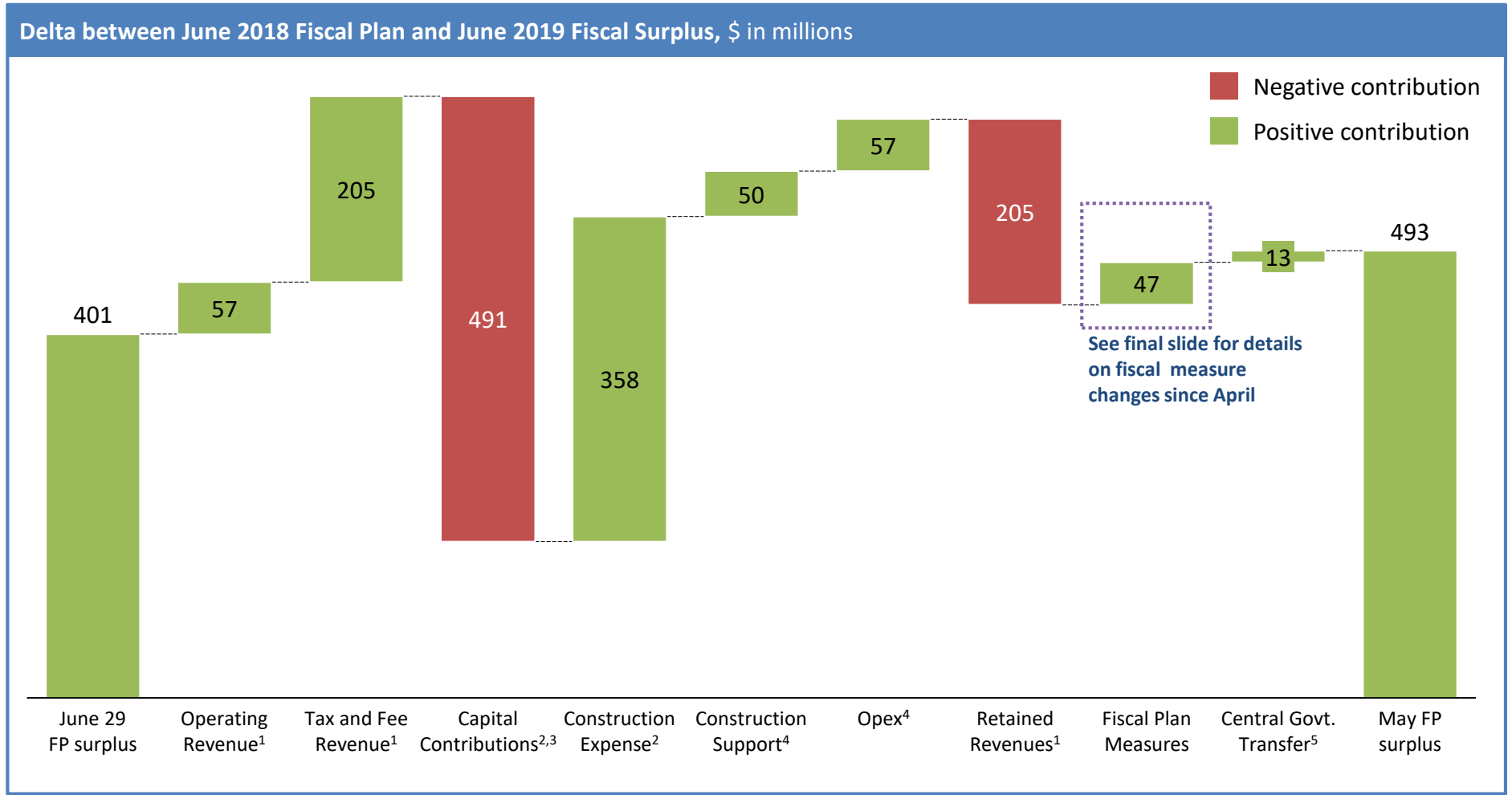
Post-certification reporting requirements

Measure area	Performance measures	FHWA reporting cadence	FOMB reporting cadence
PM1: Safety	<ul style="list-style-type: none"> Number of fatalities / serious injuries Fatalities / serious injuries per million vehicle miles traveled Number of non-motorized fatalities and non-motorized serious injuries 	<ul style="list-style-type: none"> Annual HSIP reporting with: <ul style="list-style-type: none"> Targets and how they support SHSP¹ Outcomes 	<ul style="list-style-type: none"> Annual
PM2: Pavement Condition	<ul style="list-style-type: none"> Percentage of pavements of the Interstate System in Good/Poor condition Percentage of pavements of the non-Interstate NHS in Good/Poor condition 	<ul style="list-style-type: none"> Biennial, 4 year perf. period <ul style="list-style-type: none"> Baseline Mid-period Full performance 	<ul style="list-style-type: none"> Biennial
PM2: Bridge Condition	<ul style="list-style-type: none"> Percentage of pavements of the NHS System in Good/Poor condition 	<ul style="list-style-type: none"> State and MPO reports USDOT report to congress 	
PM3: System Performance	<ul style="list-style-type: none"> Interstate/Non-Interstate Travel Time Reliability Measure: Percent of person-miles traveled on the Interstate that are reliable 	<ul style="list-style-type: none"> Biennial, 4 year perf. period <ul style="list-style-type: none"> Baseline Mid-period Full performance 	<ul style="list-style-type: none"> Biennial
PM3: Freight Movement	<ul style="list-style-type: none"> Freight Reliability Measure: Truck Travel Time Reliability (TTTR) Index 	<ul style="list-style-type: none"> State and MPO reports on performance 	
PM3: Traffic Congestion	<ul style="list-style-type: none"> Peak Hour Excessive Delay (PHED) Measure: Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita Non-Single Occupancy Vehicle Travel (SOV) Measure: Percent of Non-Single Occupancy Vehicle (SOV) Travel 	<ul style="list-style-type: none"> USDOT report to congress 	
PM3: On-Road Mobile Source Emissions	<ul style="list-style-type: none"> Emissions Measure: Total Emission Reductions 		

Year:	0	1	2	3	4
Report	1. PM2 & PM3 Baseline Performance Report	1. PM1 Annual Performance Report	1. PM1 Annual Performance Report 2. PM2 & PM3 Mid-period Performance Report	1. PM1 Annual Performance Report	1. PM1 Annual Performance Report 2. PM2 & PM3 Full Period Performance Report
Details	<ul style="list-style-type: none">Baseline status of PM2 and PM3 conditions (pavement, bridge, freight, system performance, CMAQ)2- and 4-year targets set	<ul style="list-style-type: none">Yearly report on the number of fatalities and serious injuries indexed to vehicle miles traveledNon-motorized fatalities and serious injuries	<ul style="list-style-type: none">Report on the status of PM2 and PM3 conditions versus 2-year targetsRe-assess the 4-year targetsDiscuss strategy around investments / achievements		<ul style="list-style-type: none">Evaluate success of initiatives to promote PM2 and PM3 conditions

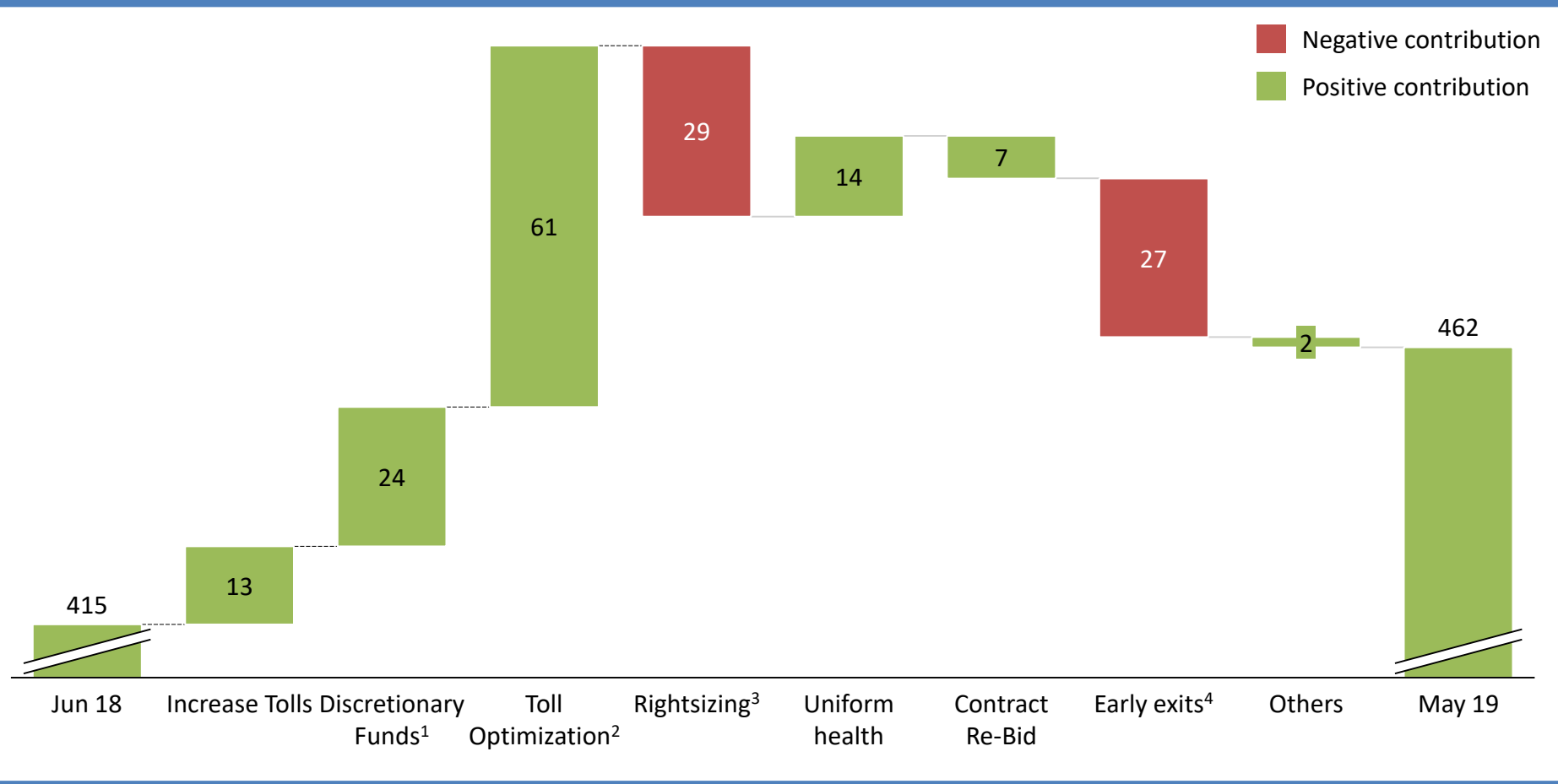
Contents	Baseline	Mid Period	Full Period
2-year targets	X		
4-year targets	X		
Basis for targets	X		
Baseline conditions/truck freight bottlenecks	X		
Ties to other plans	X		
Actual conditions		X	X
Progress discussion/truck freight bottlenecks		X	X
Investment strategy discussion		X	X
Adjusted four-year targets		X	
Extenuating circumstances		X	X
NHPP/NHFP target achievement discussion		X	X

APPENDIX A: Summary Fiscal Plan Bridges to June 2018 Certified Fiscal Plan



1 Mainly driven by changes in CW real GNP projections
2 Mainly driven by outsourcing of ER to Eastern Federal Lands
3 Partially driven by lower transit funds
4 Mainly driven by VTP savings
5 Mainly driven by differences between FY18 vs. FY24 transfer

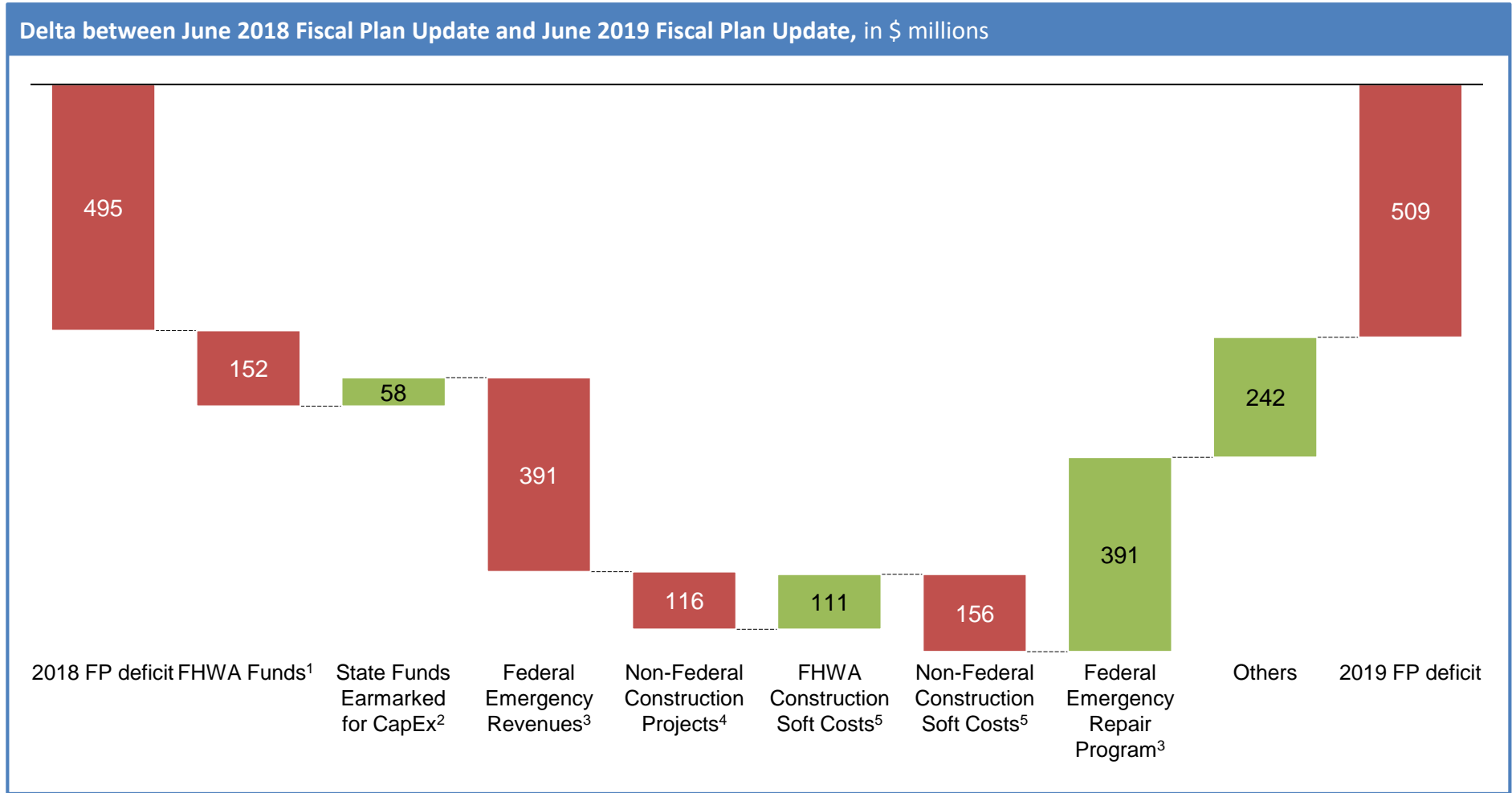
Delta between June 2018 and June 2019 Fiscal Measures, \$ in millions



1 Driven by timing differences between FY18 (\$0M) and FY24 (\$24M)
2 Driven by improvements in fine collection rates from \$60 to 80%
3 Combined effect of restructuring measure is \$65M in savings, this summary reflects only savings from past efforts
4 Implemented and reflected in baseline

Fiscal Plan Bridge, June 2018 to June 2019: Detail, Capital Program

Deficit Surplus








1 Updated to reflect federal fund availability per FY
2 Mainly driven by use of obligated but undisbursed capex funds from previous fiscal years
3 Mainly driven by outsourcing of ER to Eastern Federal Lands
4 Mainly driven by Abriendo Caminos
5 Updated based on bottom-up build of soft costs

APPENDIX B: FHWA MOU Implementation Details

● Not Started ● In Process ● Completed

Initiative	Description	Status
Federal Aid Billing Procedures	<ul style="list-style-type: none"> Revise and submit to FHWA to ensure prompt payment to contractors as follow: <ul style="list-style-type: none"> Paying all contractors by EFT Paying all contractors within 40 days of receipt of invoices Tracking status of payments using electronic method acceptable to FHWA Paying all contractors on the first business day after funds are received from FHWA 	Completed on Q2 2016. Tracking status of payments will be upgraded with Oracle E-Business Suite and Program Management Information System (PMIS) ●
Toll Credits	<ul style="list-style-type: none"> Validate that HTA's existing toll credit balance complies with current FHWA guidance (the current guidance at the time of execution of this Agreement Identify that amount of toll credits available for use by HTA, and Identify modifications that HTA must make to its processes for approving, tracking and reconciling toll credit usage 	In Q1 2016 HTA validated compliance with FHWA guidance and identified the available toll credits. The tracking status of toll credits will be upgraded with PMIS ●
Organizational Capacity Development	<ul style="list-style-type: none"> Contract management consultant to assist the HTA to review and develop recommendations to streamline the HTA's project billing process, project delivery process, contracts standard language, training program, SOP's, and applicable commonwealth laws or regulation 	<p>Notice to Proceed (NTP) provided on 3/2017 ●</p> <p>Schedule for Implementation submitted 3/2019 ●</p> <p>Strategy and RFP development by Q2 2020 ●</p>
Expediting Project Delivery	<ul style="list-style-type: none"> Procure services to improve systems such as email communication, electronic project monitoring system, improvements to financial billing system in order to reduce the HTA's obligated but unexpected balances Submit to the FHWA a report identifying the reasons for the delay of every project that the HTA has obligated, but less than 5% of funds have been expended since obligation recorded Develop and Submit a schedule to accelerate obligation of its annual Federal-aid allocation to ensure all funds are properly obligated before redistribution of Federal-aid obligation limitation 	<p>The email migration was completed 2/2017. Improvements of email communications completed 7/2017. ●</p> <p>Implementation of Finance, HR, and Payroll Modules completed, Management, Inventory, and Treasury by 7/2019, Contract management by 4/2019 ●</p> <p>Four phase rollout beginning 12/2019 and ending 7/2021, currently document repository to be complete 5/2019 ●</p>

MOU Implementation – Requirement I – Federal Aid Billing Process

MOU Requirements		Status	Comments	Estimated Percentage Complete
				60%
1. Payment to contractor by Electronic Funds Transfer (EFT)			Complete	
2. Payment to contractors within 40 days of receipt of invoices *			Additional work is needed as HTA does not track time in accordance with the MOU	
3. Tracking the status of payment using an electronic method that is acceptable and accessible to FHWA			HTA has not disclosed that it has established a mechanism to track time from request to payment	
4. Payment to all contractors on the first business day after funds are received from FHWA			Complete, continuing effort	
5. Revise HTA's billing process to be able to bill FHWA on a cost-incurred basis rather than a reimbursement basis			HTA's billing is currently done on a cost-incurred basis	

* The OCD implementation streamlines the payment process to accelerate payments to contractors. The short-term implementation will be focused on the reduction of touchpoints and the optimization of internal documentation while complying with federal regulations. The long-term implementation will be achieved with the deployment and adoption of Oracle and PMIS.

MOU Implementation – Requirement II – Toll Credits

Estimated
Percentage
Complete

80%

MOU Requirements

Status

Comments

1. Validate that HTA’s existing toll credit balance complies with current FHWA guidance (the current guidance at the time of execution of this Agreement is “Interim Guidance – Toll Credit for Non-Federal Share, November 20, 2015”



Complete

2. Identify the amount of toll credits available for use by HTA



Complete

3. Identify modifications that HTA must make to its processes for approving, tracking and reconciling toll credit usage *



The standard operating procedure was revised and Federal Liaison Office is in charge of this continuous effort. HTA has not provide FHWA modification to its written process for approving, tracking and reconciling toll credit usage

* Electronic method will be upgraded with the deployment and adoption of the new systems

MOU Implementation – Section III – Organizational Capacity Development

MOU Requirement

This section required a development of a request for proposal (RFP) to procure a management consultant service to facilitate and enable HTA to improve its systems, procedures and bylaws in order to become a more efficient organization and expedite project delivery

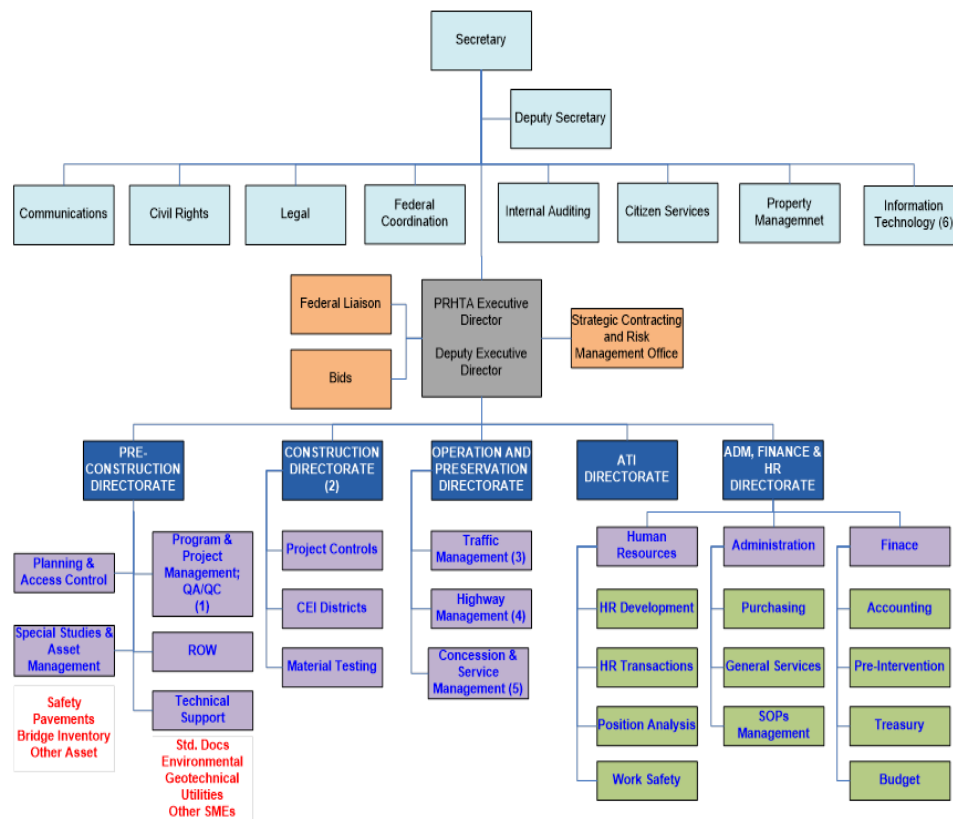
Estimated
Percentage
Complete

97%

Conceptual framework submitted to FHWA







- Schedule for Implementation was submitted to FHWA on March 25, 2019
- The Organizational Structure includes a new Executive Director's Advisory Office focused on Strategic and Effective Outsourcing
- Initial Strategy and RFP Development Q1-2 of FY 20
- De-linked Business Process Improvements from PMIS implementation

HTA's Draft New Organizational Structure






MOU Implementation – Section III – Organizational Capacity Development (cont'd)

High Level – Schedule for Implementation submitted to FHWA

Organizational Processes Improvement Plan	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
2.0 Billing Process					
3.0 Organizational Structure					
4.0 Project Development Process (12 Initiatives)					
5.0 Standard Documents Improvements					
7.0 Standard Operating Procedures					
8.0 Core Competencies & Training					

To assure an effective rollout date, each initiative includes three main phases: (1) Planning, (2) Development and (3) Rollout

MOU Implementation – Section IV – Expediting Project Delivery through Improved Management Systems

			Estimated Percentage Complete
			80%
MOU Requirement	Status	Comments	
1. Develop a report identifying the reasons for delay for every project HTA obligated		Complete	
2. Issue an RFP to procure improved systems such as email communication, electronic project monitoring system, improvements to the financial billing system in order to reduce the HTA's obligated but unexpended balances		In Process	
3. Develop and submit a schedule with milestones to accelerate obligation of federal aid allocations		The schedule to accelerate the obligation of annual federal-aid allocation was agreed and accomplished. Since that day, HTA is obligating all the funds by August redistribution.	

HTA to submit to FHWA a report identifying the reasons for the delay for every project that HTA has obligated, but not expended at least 5% of the funds

MOU Implementation – Section IV – Expediting Project Delivery through Improved Management Systems (continued)

Status of the Management Systems Improvements



Estimated Percentage Complete
100%

Email Communication:

- Microsoft Exchange migration to Microsoft Office 365 “Cloud/SaaS” was completed in July 2017

Estimated Percentage Complete
60%

Improvement to the Financial System:



- Upgrade of Oracle EBS Finance Modules were completed on March 15, 2019
- Human Resources and Payroll Modules Implementation were completed on February 15, 2019
- Implementation of New Financial Modules such as grants and cash tracking. Management, Inventory, Treasury to be completed by July 2019.
- Integrated Contract Management Module (ICMM) to be completed by April 2020. Deployment timeframes need to be clearly defined relative to previously reported timeframes.

MOU Implementation – Section IV – Expediting Project Delivery through Improved Management Systems - PMIS

Project Management Information System (PMIS):

Estimated
Percentage
Complete

58%

- Oracle-Unifier is implementing its software in phases. The following schedule considers the development & execution and the rollout phases:



- Development & Execution – this phase considers the business analysis, coding, user acceptance tests and Power User Training activities, among others
- Rollout phase – this phase considers pilot projects, full staff training and final system adoption activities. The implemented modules are monitored, measured and adjusted, as deemed necessary.